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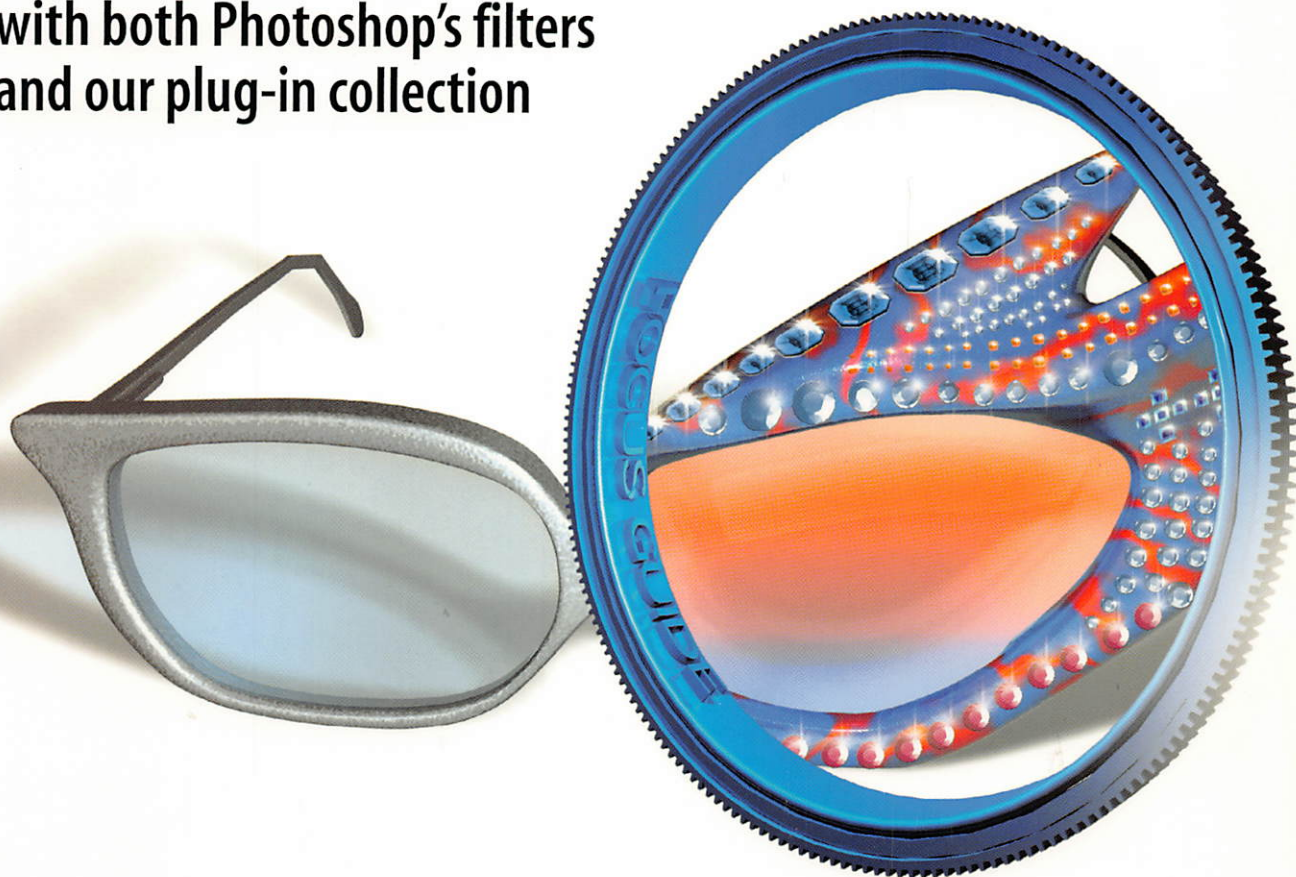
Adobe Photoshop

Filters Special



FocusGuide
From the makers of **Computer Arts**

Create awesome results instantly
with both Photoshop's filters
and our plug-in collection



**132 pages of easy-to-follow tutorials and expert advice
to help develop your Adobe Photoshop skills**

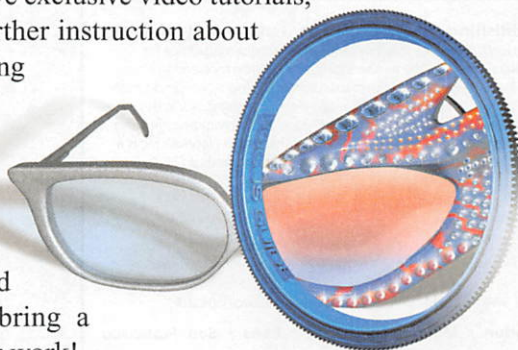


Some very special effects...

Harness the power of Adobe Photoshop's Filter menu and transform your images in an instant

The Filter menu is considered to be one of the most essential features by many users of Photoshop. Providing you with a collection of more than a hundred effects, Photoshop's native filter set enables you to subtly amend an image for output or perform radical surgery, as needs dictate. Images can be improved and focus adjusted by the use of sharpen and blur tools, and numerous textures can be created by using filters such as Noise and Halftone. Radical special effects can be applied, enabling you to distort an image in an infinite number of ways, while the more artistic filters enable you to get back to the roots of art and design, providing a means to simulate natural media.

Whether you're a newcomer or veteran user, it's essential to learn how, when and why to use the various Photoshop filters in your work. Throughout this guide we'll be providing advice, expertise and walkthroughs, exploring the majority of these filters, and showing you how they can best be used. On the CD-ROM, you'll find a number of beautiful professional-standard photograph files from www.wz2k.co.uk provided courtesy of regular Adobe Photoshop Focus Guide contributor Hatch, and all the images you need to complete the walkthroughs within the guide. In addition, you'll find five exclusive video tutorials, providing you with further instruction about how to use these exciting tools. So boot up your computer, open Adobe Photoshop, and let us guide your creativity and imagination to help bring a new dimension to your work!





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Finding your way

Our handy icons hold the key to a wealth of additional information. Here's what they all mean...

With so much to tell you about how you can create perfect portraits with Photoshop, it's hard to find room for all the information we want to pack in. That's why you'll find the special icons that occupy the margins on each page so useful.

As you leaf through the pages, you'll find a range of eye-catching symbols, each of which indicates an extra nugget of knowledge. The icons enable you to identify exactly what kind of information you're dealing with – for a guide to icon

categories, see below. These handy hints and tips are always relevant to the topic that's being discussed, and will help you develop your Photoshop skills that little bit faster.

Our writers are always experienced Photoshop experts who regularly contribute to our sister magazines, such as *Computer Arts*, *Computer Arts Projects*, *3D World* and *Digital Camera Magazine*. So you can rest assured that all the information they provide is both authoritative and thoroughly tried and tested.



On your CD-ROM

Tutorial files, trial software and more besides is included on your CD-ROM. Every now and then, we remind you of this by flagging-up the disc icon and listing the relevant disc contents.



Take note

You'll find a number of these nuggets of knowledge scattered throughout the Guide. They're crammed with useful information that complements the main text perfectly.



Top tips

This indicates an expert tip. Anything sheltered beneath this icon is guaranteed to reveal a useful tip, or advice about Photoshop's range of tools, options and features.



Watch out!

The 'skull and crossbones' sign means proceed with caution. You'll find some important points outlined below this icon, which you should certainly take seriously.



Further information

We'd like to tell you absolutely everything, but there's just not enough space. Instead, we refer you to other useful resources – such as websites and specialist books – for further reading.



Links

When we refer to a website, we may pull out the web address in the sidebar to make it easier for you to read and remember.



Shortcuts

Carrying out common tasks again and again can get a little tedious. Our handy shortcuts show you how to perform these tasks with a few deft key-presses, saving you lots of time and effort.

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Chapter 1

INTRODUCING PHOTOSHOP'S FILTER SET

In this chapter...

- ☐ Learn about corrective and destructive filters
- ☐ See how to apply filters to your work
- ☐ Use blending modes to enhance filtered images
- ☐ Apply combined effects fast using the Filter Gallery

We begin with an overview of Photoshop's filters, discussing the basic types and showing you how to apply them, before taking a look at Photoshop CS's all-new Filter Gallery

Photoshop's native filter set provides graphic designers and illustrators alike with a means of rapidly applying automated effects to an image. The range of effects in the current version is immense; Photoshop comes with around 100 built-in filters, ranging from tools for subtle blurring and sharpening through to filters that can be used to create extreme distortion effects. The secret to getting the most out of these filters lies in learning how to use them in a creative manner, while not relying on them as the sole means of expression in your work. It's also important to be able to distinguish between the different

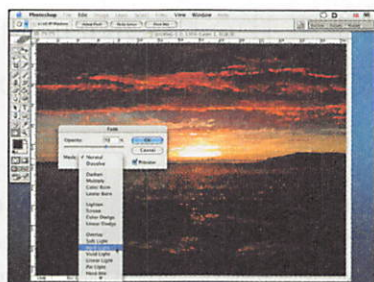
types of filters, and know how, when and why to use them; this Focus Guide aims to help you do just that.

Corrective versus destructive

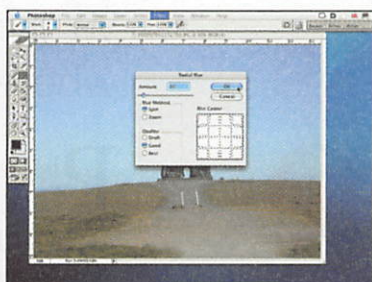
Generally speaking, Photoshop filters are either corrective or destructive. Corrective filters are by far the most useful, and these will be the main focus of this guide. In simple terms, these filters enable you to improve an image for output; the effects they produce are often so subtle that someone looking at the image may not even realise that filters have been applied. Examples include those filters used to change an image's focus by way of blurring



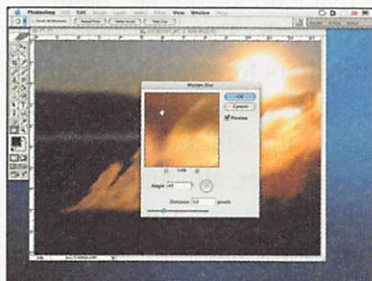
Page 12 Photoshop makes it easy to find the right filter for a particular job



Page 13 Master the Fade command to alter a filter's opacity and blending mode



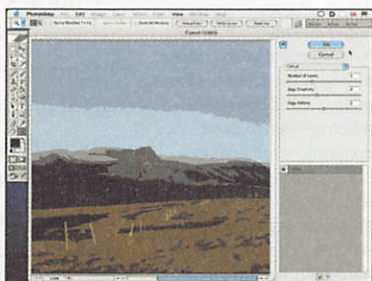
Page 14 Find out how to adjust the settings for different filters



Page 14 Learn some tips to help you work with filters that have dialog boxes



Page 15 Combine filters and layer masks to create highly stylised effects



Page 16 Experiment with a range of effects using Photoshop CS's Filter Gallery

or sharpening, and filters that subtly improve an image's colours.

While corrective filters can overwhelm your artwork, this can be avoided if they're used with care. The same is less true for many of Photoshop's destructive filters, which can easily make the effect more noticeable than the work itself. Destructive filters enable you to rapidly warp images in various bizarre ways, and new Photoshop users tend to get very excited by them; however, rather like a kid in a candy store, it's easy to rapidly get sick of such 'goodies'. These filters also tend to look demonstrably 'fake', although some are still worth

investigating, so long as you can resist the urge to overuse them.

Emulating natural media

Some of Photoshop's destructive filters aren't quite so extreme, and provide a means of emulating natural media, such as watercolours and sketching, and even degradation effects. Again, however, these standard effects should be used in moderation. In the final chapter of this Focus Guide we'll show you how to create several natural media effects that should be more convincing than those that would be obtained by using a single native Photoshop effects filter.

Accessing Photoshop's filters

We'll start at the beginning, showing you where to find filters and how to select them



Third-party filters

This guide will focus on Photoshop's native filters. It's easy to distinguish between native and third-party filters by looking at the Filter menu: the top of the menu has four options for advanced filters, which are akin to small applications rather than having simple dialog boxes; a separator is followed by the native filters list; another separator is followed by any third-party filters that you've installed.

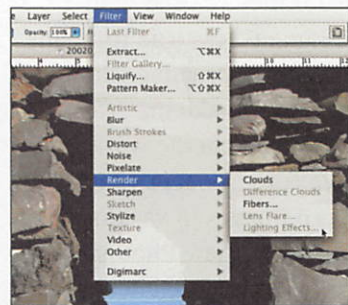
Photoshop's filters are located within the Filter menu, which is found in the menu bar at the top of your Photoshop window or screen, depending on whether you're using Windows or the Mac OS. This menu works just as you'd expect: click on it and a drop-down menu appears, displaying a number of filter categories. The title of each category is intended to provide an indication of the type of filters it contains, although some of the names Adobe has chosen are rather arbitrary. Because of this, the filters covered

in the various chapters of this Focus Guide are grouped by concept, rather than by Photoshop category. However, Adobe's choices are fairly logical: the Artistic category houses effects that tend to simulate natural media, while the Texture category contains filters for applying textures to your work. Selecting an option from one of the sub-menus activates the relevant filter, although, as we'll see over the next few pages, some filters are immediately applied to a selection, some have dialog boxes, and others invoke the Filter Gallery.

SELECTING THE RIGHT MODE

Many filters are designed for use with specific colour spaces

Before applying a filter, ensure that your image is in the most appropriate colour mode. All native filters work in RGB mode, and only Lens Flare, Lighting Effects and NTSC Colors aren't available in Grayscale mode. At the other extreme, filters can't be applied to images in Bitmap or Indexed Color mode. Elsewhere, about half the filters are unavailable; for instance, in CMYK mode you can't access the Artistic, Brush Strokes, Sketch, Texture or Video filters. However, most of the more useful filters (Blur, Noise, Sharpen) can be used. Also note that some filters – notably Color Halftone – produce very different effects depending on the image's colour mode.



This image is in Lab Color, limiting the number of filters that can be applied; unavailable filters are greyed out

Applying filters

Applying even a simple filter can change the entire look and feel of an image in seconds

Using a Photoshop filter couldn't be simpler: just select your choice from the Filter menu. If the filter has no dialog box, Photoshop immediately applies it to your image, or the selected area of your image; if a dialog box appears, configure the various options as required and press OK. Like any command, filters can be undone, but we recommend making a copy of any layer you wish to filter, so you always have an unaffected original.

Photoshop usefully provides a quick means of reapplying the most

recently chosen filter to an image. Go to Filter > Last Filter, or use the keyboard shortcut [Ctrl]+[F] ([Command]+[F] on a Mac). If you want to reapply the last filter, but want to change the settings (for those filters that have a dialog box) use the shortcut [Ctrl]+[Alt]+[F] ([Command]+[Option]+[F] on a Mac). Note that these shortcuts only apply if the most recent filter was allowed to complete; if you cancel a filter and then apply the last filter shortcut, Photoshop will apply the last uncanceled filter.



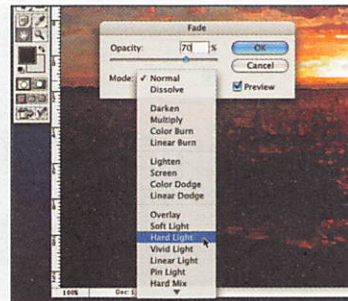
Be subtle

Remember that everyone who owns Photoshop has access to the native filter set, so if you want your images to stand out use the filters creatively, and in subtle ways. Don't just apply extreme filters to an image, thinking that it'll win you kudos. Other designers will instantly recognise the signature of many of the distortion tools, while many viewers will have seen it all before.

USING THE FADE COMMAND

Here's how to reduce the intensity of an applied filter effect

Sometimes the effect of a filter can overpower an image, and you can reduce the strength of a filter using the Fade command. Accessed via Edit > Fade, or by the keyboard shortcut [Shift]+[Ctrl]+[F] ([Shift]+[Command]+[F] on a Mac), the Fade dialog provides you with two options. The first enables you to reduce the opacity of the effect by blending the filtered image with the unfiltered original. The pop-up menu enables you to use any of Photoshop's layer blending modes to modify the filter's effect. Although useful in some cases, it's generally preferable to filter a copy of a layer, and use the Layers palette to blend it with the original.



The Fade dialog box can be used to blend the filtered version of an image with the unaffected original

Filters with dialog boxes

Some filters have a number of settings, so you can experiment to create interesting results

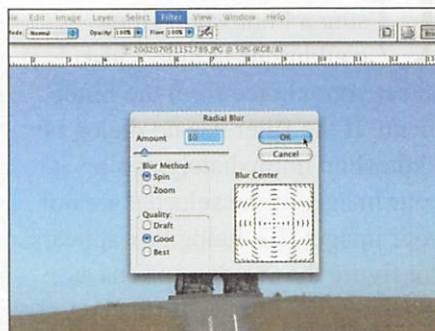


Upgrade your PC

Photoshop is a notorious memory hog, and a very demanding application with regards to your computer's processor. It's no good trying to work with the application on a minimum spec PC with inadequate RAM; if you're serious about Photoshop work, ensure you have the fastest machine you can afford, stuffed full of the maximum amount of RAM you can squeeze in before you run out of room – or cash.

The less configurable of the Photoshop filters are instantly applied when chosen from the Filter menu, but those with adjustable settings have a dialog box, in which you can tweak the effect to suit your image. Dialog boxes remember the settings you choose for the next time you use the filter, although, as you'll see below, these settings can easily be reset to their default state.

Most filters with dialog boxes offer some kind of visual preview. Some update the image itself in real-time as you amend the settings, while others



Although most filters offer previews, some don't, so when working with them trial and error is the only way to get the result you want

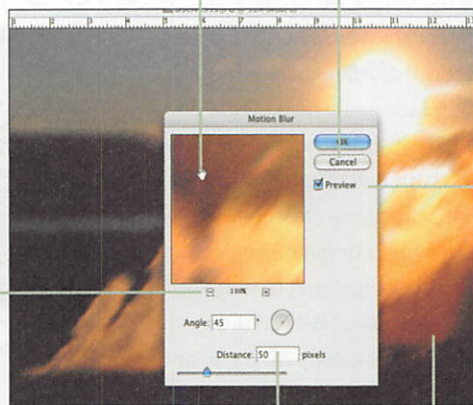
(mostly the processor-intensive destructive filters) restrict the preview to that within the dialog box.

EXPLORING A PHOTOSHOP FILTER DIALOG BOX

Hover over a dialog box's preview area and the Hand tool appears, enabling you to scroll the image to see how the filter affects various areas.

Controls in the preview area enable you to zoom in and out of the image; the current zoom amount is also shown.

Use the keyboard to amend values; the up or down arrows tend to change values in increments of one, while holding down [Shift] at the same time tends to amend values in increments of 10.



Hold down [Alt] (or [Option] on a Mac) and the Cancel button becomes a Reset button, enabling you to return the dialog's values to their default settings.

Many filters with dialog boxes offer a Preview checkbox, enabling you to select a live preview of the effect. Toggle this to compare 'before' and 'after' states.

You can still explore the image window even when a dialog box is active; press the spacebar and drag to scroll.

Using masks and selections

Filters don't have to be applied to an entire image; they can be confined to a selected area

Filters will be applied to the whole image, or to the whole of the currently selected layer, if no selections are made within the image window you're currently working with; however, in many circumstances, this is a major limitation. It's just as well then that Photoshop enables you to apply filters on a more selective basis.

By selecting an area of your image with tools such as the Marquee, Magic Wand or Lasso, you can select the portion of your work that you want a filter applied to. However,

even corrective filters affect your image in an irreversible way, so, as we mentioned on page 13, it's usually better to duplicate a layer, and apply filters to the new layer.

When doing this, a whole host of options open up, notably when you work with layer masks. You can use them to block out the areas you don't want a filter applied to, or use gradients to subtly blend a filtered layer into the original image. Also, by experimenting with the various colour modes, highly stylised effects can rapidly be worked up.



Selections for speed

Make use of small marquee selections to compare how several different filters (or different configurations of the same filter) affect an image; simply select different areas of the image and apply the different filters. Once you've decided which you want to apply, use the History palette to move back to the point prior to any filters being applied, then apply the chosen filter to the relevant portion of your image.

USING LAYER MASKS AND FILTERS

Creating a special effect using a layer mask

We created this effect using a photograph of a bee (015.jpg on your CD). First, the layer was duplicated, and a layer mask added to the new layer. A radial foreground-to-transparent gradient was added so the bee showed through from the original layer. The Filter Gallery (see overleaf) was then used to add three filters to the new layer: Watercolor, Poster Edges and Texture. As the filters were applied to a separate layer we could experiment with the layer blending mode; changing this to Linear Dodge brightened the colours, making them more watercolour-like. Finally, an Unsharp Mask filter was applied to the original layer to bring the bee more into focus.



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Our layer mask creates a seamless blend between the original photo and the painterly effect at the edges

Introducing the Filter Gallery

This new feature enables you to preview multiple filters, and apply them to an image

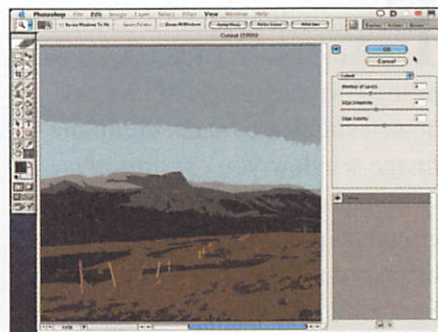


Drop-down menu

At the top of the Filter Gallery's settings area is a drop-down menu. Click on this and you'll see a list of every available Filter Gallery filter. Once you know how the filters affect an image, this is a quicker way of selecting them than by using the expandable folders, and if you get used to using the drop-down menu you can do away with the centre section entirely, and have a larger preview area.

New to Photoshop CS is the Filter Gallery, which plays two roles. Along with superseding the old dialog boxes for each of Photoshop's effects filters, it also enables you to apply and preview several effects simultaneously. It's accessed via Filter > Filter Gallery, and automatically invoked should you choose to apply one of the effects filters to your image.

The filters contained in the Filter Gallery are largely those that emulate natural media (which we'll look at in Chapter 8), most of which aren't that



If you click the arrow icon next to the OK button the preview area expands, and the Filter Gallery resembles a more typical dialog box

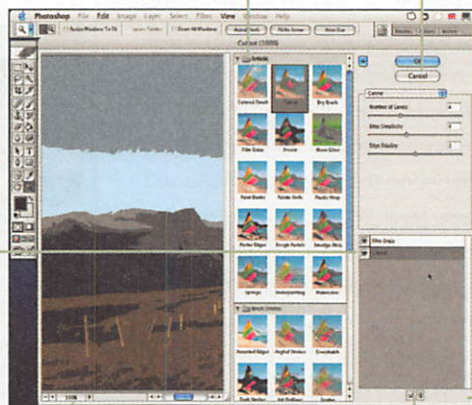
useful for everyday jobs. However, the Filter Gallery does at least make it easy for you to experiment.

THE FILTER GALLERY EXPLAINED

Filters are arranged in expandable folders that correspond to their position in the Filter menu. This entire section can be collapsed, providing more room for the preview area.

The order of effects in the stack has a bearing on the final effect. Effect layers can be rearranged, and a layer's visibility can be toggled by clicking its eye icon.

The Filter Gallery's preview is updated in real time. Zoom levels can be adjusted using the controls, or Photoshop's standard shortcut keys.



Hold [Alt] ([Option] on a Mac) or [Ctrl] ([Command] on a Mac) to turn the Cancel button into a Reset button or Default button respectively.

Unlike many dialog boxes, the Filter Gallery can be resized simply by dragging the resize handle.

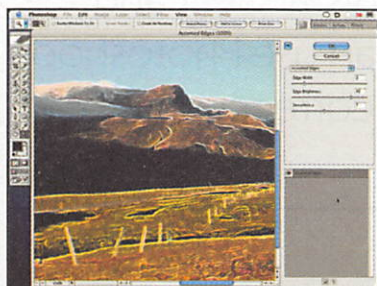
Below the layer stack are two icons; the page icon creates a new effect layer, and the wastepaper basket deletes the selected layer.

Using the Filter Gallery

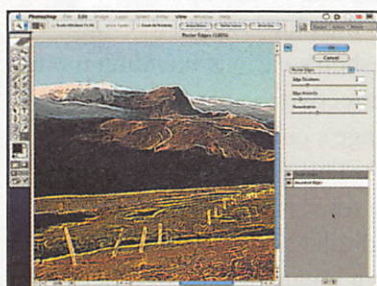
Let's have a look at the Filter Gallery in action as we rapidly create bold graphical effects



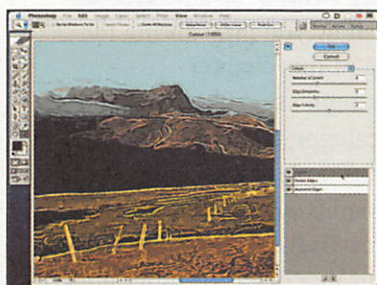
1 For this walkthrough we'll take a digital photograph of a landscape (on the cover CD as 017.jpg) and apply some effects filters to it, to create a bold, artistic look. The first thing to do is invoke the Filter Gallery, and select our first filter, by going to **Filter > Brush Strokes > Accented Edges**.



2 We'll look at the Accented Edges filter in more detail on page 113; by default it resembles a blobby watercolour in which a lot of dark paint has been used. By ramping up the Edge Brightness setting to 40 and the Edge Width to 3, and reducing the Smoothness to 14, we still get a painterly effect, but one in which the edges are heavily emphasised.



3 The overall effect is too bright, so we'll add some contrast by using the Poster Edges filter, with Edge Thickness and Posterization set to 2 and Edge Intensity set to 1. The result is a busy image, in which the dark and light areas create an effect akin to an overhead view of a huge maze.



4 The image needs simplifying somewhat, because although it has some impact it's rather gaudy, and not particularly appealing to the eye. A good filter for simplification is Cutout. With Number of Levels set to 4, Edge Simplicity set to 3 and Edge Fidelity set to 2, we get something like the depicted image: an effect reminiscent of heavily stylised paintwork, or an intricate marker pen drawing.



Double up filters

Sometimes the effect of a filter can be enhanced just by duplicating it (in other words, by overlaying two effect layers with the exact same settings). This is extremely easy to achieve with the Filter Gallery, because all new effect layers take on the properties of the currently selected layer. Therefore, to double up a filter, simply select the relevant layer and click the New effect layer button.



Preview with small images

A typical digital photograph spans well over a thousand pixels in each dimension. When using the Filter Gallery with an older machine, a huge image, or both, try experimenting with a smaller version of the image first, because preview times will be much faster. Some settings may need tweaking when you finally apply the effects to your larger image, but at least you'll have an idea of which filters you want to apply, and in which order.

Chapter 2

HARNESSING THE POWER OF BLUR FILTERS

In this chapter...

- ☐ Learn about the different blur tools
- ☐ Reduce JPEG artifacts
- ☐ Create depth of field effects
- ☐ Create the illusion of speed in an image
- ☐ Use blurs to fashion special effects

Not all images need to be crystal-clear and pin-sharp throughout. You can use Photoshop's blur filters to soften images, correct colour and create exciting visual effects

Many people consider clarity to be the cornerstone of a quality image, and it's certainly true that strong details are very important for a lot of photographs and designs. However, there are plenty of other occasions when only a blur will do, and whether you need to defocus a portion of an image, soften a line, reduce overall contrast or create a depth of field effect, Photoshop has a blur tool to help.

Control the blur

Although blurring used to be seen as something of a destructive effect, modern software gives us far more control over how an image is

blurred, and to what portion of the image the blur is applied. Using Photoshop's various blending modes, it's perfectly feasible to blur just an image's colours, rather than its details. This facility comes in very handy for removing JPEG artifacts from digital photographs (see page 22), but it can also be used to create visually striking artistic effects; we'll show you how during the course of this chapter.

Although as of Photoshop CS the Blur category of the Filter menu contains no less than eight filters, Gaussian Blur is by far the most popular. Rather than distributing the blur in a linear fashion, it uses



Page 22 Combine layer blending modes and filters to eradicate JPEG artifacts



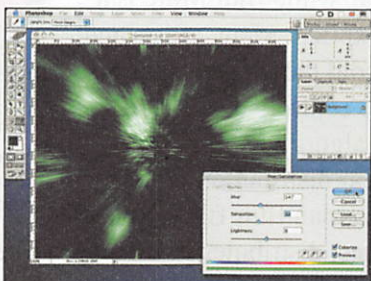
Page 25 Use the Gaussian Blur filter to create a dream-like, saturated image



Page 29 Create a feeling of speed by applying the Motion Blur filter



Page 30 Use quick masks and blur filters to emulate a plate camera photo



Page 33 Fashion a texture-rich zoom blast effect by using the Radial Blur filter



Page 34 Draw attention to a portion of an image by creating a snapshot effect

a bell-shaped Gaussian curve, resulting in a less jarring and more visually pleasing effect. However, despite the pre-eminence of this filter, the other options Photoshop provides shouldn't be ignored.

Centre of attention

Leaving aside preset filters such as Blur and Blur More, plenty of creative fun can be had with the likes of Motion Blur (to create a feeling of movement and speed), Radial Blur (for interesting zoom effects), and Lens Blur (to simulate real-world optical blurring). Each of these tools provides a unique effect, and with careful use and subtle

blending you can end up with quality images. And, because blur effects are fairly commonplace, there's less of a recognition factor that you might get from using Photoshop's more esoteric filters.

Of course, blurring is only one aspect of focusing an image, and Photoshop also provides plenty of tools for enhancing contrast and focus; these are discussed in the next chapter. With this in mind, you should perhaps take in both chapters at once, because in many cases the tools are used together. Also, to blur an image is to simplify it, so check out the related tools in Chapter 6, on smoothing and simplifying images.

Blur and Blur More

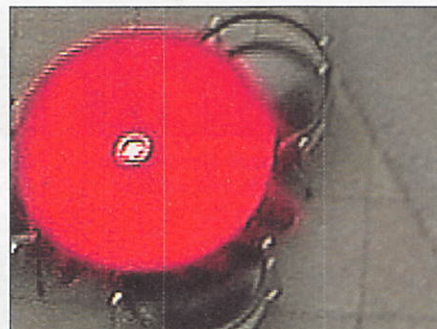
Photoshop has two preset blur filters, which are rather limited but very easy to use



The Average filter

Photoshop's new Average filter is perhaps the most extreme of the blur tools. It notes all present colour values, takes an average, and then renders the result as flat colour. On an entire image this is useless, but when combined with selections and blending modes it can be a useful tool for ironing-out colour imperfections, or creating highly stylised images.

Two of the options within the Filter menu's Blur category – Blur and Blur More – are preset filters that have no adjustable settings. In practice the Blur filter is very subtle, while Blur More is a little more explicit. Many artists and designers avoid these filters, because they can't be controlled, and also because the algorithms involved result in linear distribution of the blur (the Gaussian Blur filter, as its name suggests, distributes its effect over a bell-shaped Gaussian curve). Despite this, the Blur and Blur More



This composite, zoomed to 400 per cent, shows the original image (left), the effect of Blur (centre) and the effect of Blur More

filters are useful once you've learned how they affect an image, and if you require a blur of a preset amount.

BLURRING SELECTIONS

Use masks, or other selection methods, to blur parts of an image

Digital camera photos often lack depth, because there's no change in focus. At all distances, images tend to be sharp, but the human eye doesn't work in this fashion; it focuses on what it's looking at, and other areas within vision are blurred. By using Photoshop's blur tools you can draw focus to part of an image. Here, the stone arch in the original image distracted from the landscape on the other side. We focused on the view through the arch by drawing a selection with the Lasso Tool (with Anti-aliased checked and Feather set to 10px for a smooth transition between sharp and blurred areas), inverting the selection and applying the Blur More filter a few times.



The original of this image was taken with a digital camera; several passes of the Blur More filter added focus

The Gaussian Blur filter

Let's look at possibly Photoshop's most-used filter, before using it in a series of tutorials

The Gaussian Blur dialog box is not a particularly complex example of its kind. It only has a single definable setting, which is used to determine the Radius value; essentially, the higher the Radius value, the greater the blur. As we've mentioned, the Gaussian Blur filter tends to produce visually pleasing effects, due to the fact that a bell-shaped Gaussian curve is used to distribute the blur.

However, the real power of the filter lies in how precise you can be with the blur itself. The dialog box

enables you to enter any Radius value, from 0.1 to 250. Although you'll probably never use the entire range (see 'Degrees of blurring' below), the ability to increase the Radius value in increments of just 0.1 pixels can be very handy. It might sound a little finicky to someone who hasn't regularly used the filter, but, at low Radius values, a difference of just 0.1 pixels can wildly affect the final result. Even at moderate values, a change of 0.5 pixels may be more suitable for an image than increasing the value by 1.



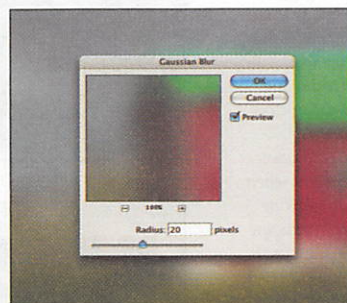
Emulating other filters

Because of the nature of the Gaussian Blur filter and the way it applies the blur, there's no value that exactly equals the effects created by the Blur and Blur More filters. However, a similar effect to Blur can be achieved using a Gaussian Blur Radius value of about 0.25, while an effect similar to Blur More requires a Radius value of approximately 0.6.

DEGREES OF BLURRING

Only a small range of Radius values are worth investigating

Although the Gaussian Blur dialog box enables you to enter any Radius value from 0.1 to 250, you'll never use that entire range in practice. Values up to 0.5 produce a very subtle effect, and at 1 the blur is fairly obvious, although not so much as to be distracting. By the time you get to 5, the image resembles a photograph taken using a defocused camera lens, and such a level of blur is only of use when combined with a layer blending mode. Above 5, you're into 'life underwater' territory, and by the time the Radius value hits 50 images become pretty much unrecognisable (although perhaps of some use as abstract backgrounds).



The Gaussian Blur filter has a large range of Radius values, but only a small part of this is useful for everyday work

Reducing JPEG artifacts

Here's a quick and painless way of removing JPEG artifacts from digital photographs



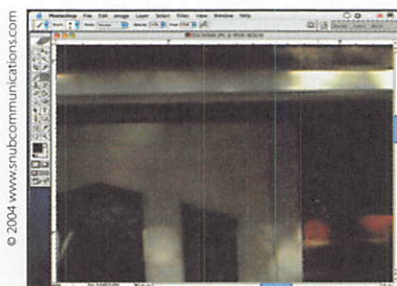
Create an action

While this walkthrough shows you a quick way of sorting out colour issues in a digital photograph, it still takes several seconds to complete. If you regularly need to correct digital images in this way, create and store a few actions, each with a different amount of blur, and provide each one with a keyboard shortcut for ease of access.

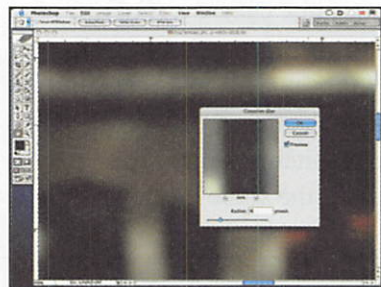


Another method

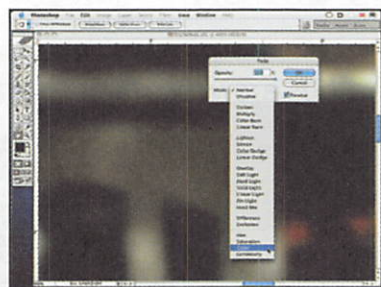
A common method for reducing JPEG artifacts is to convert an image to Lab Color mode, then blur the two colour channels. Although this technique also produces satisfactory results, we think it's something of a hangover from before the time when Photoshop had the Fade command. At any rate, the method we've described is certainly a lot quicker, even if the steps for both methods are recorded as actions.



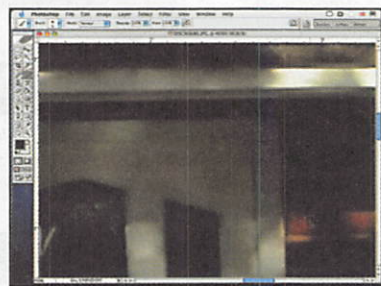
1 Here's a typical image that was taken with a digital camera. At 100 per cent zoom, artifacts – stray areas of pixels of the wrong colour – are noticeable, especially within areas of flat colour. When you zoom in on the image, this effect is even more pronounced; for example, the shadow on the off-white door has numerous pink and green pixels within it.



2 First we'll add a fairly large amount of Gaussian Blur to the image, which results in the unwanted colours being blended together. The amount of blur you need to add varies from image to image; keep increasing it until the colour variation is pretty much unnoticeable. For this image, which is 1600x1200 pixels, a Radius value of 4 pixels is sufficient.



3 At this point the image rather resembles one taken underwater, and obviously needs some work. Before making any changes to it, go to Edit > Fade to bring up the Fade dialog box. Leave the Opacity at 100 per cent, and use the pop-up menu to change the filter's mode from Normal to Color.

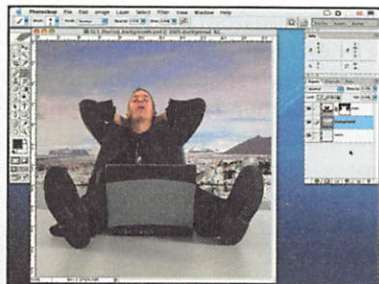


4 Here's the finished image (still zoomed, hence the evident pixelation). Because the blur was confined to the image's colours, the stray pixels have disappeared. They've been replaced by the average colour of the background, which is pretty close to what it's supposed to be. The comparison is quite hard to see in print, so have a go with one of your own images, or use 022.jpg from the cover CD.

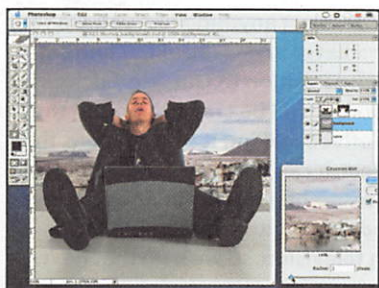
Blurring backgrounds

Blur an image's background to alter its message by increasing the impact of other elements

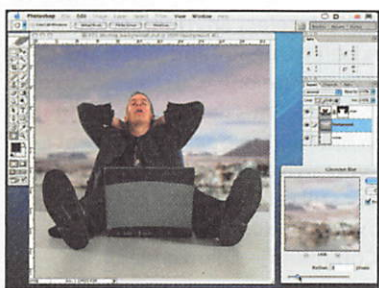
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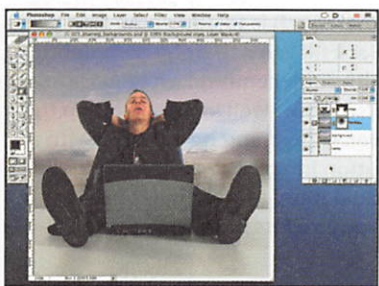
1 Here's an image of an office worker dreaming of getting away from it all. It was created by placing the images 023_man.jpg and 023_background.jpg from the CD on separate layers, then using the outline of the man as a selection to form the basis for a layer mask. The image was cropped and resized, but the sharp focused background doesn't make visual sense; it looks too close.



2 Select the landscape layer and add a small amount of Gaussian Blur. The image now looks more natural, as it might if you looked at such a scene for real, or if it was a photograph that had natural depth of field from a camera lens. Here, we've used a 1 pixel Radius value, and the image itself is 650 pixels wide. A larger image would need a higher Radius value to achieve the same effect.



3 By increasing the Radius value further – in this case to 3 – the effect no longer feels natural. The overall effect has displaced the subject from his environment, and shifted the focus, which is now squarely concentrated on the foreground. However, the stylised effect of the blur has created a rather dream-like background, which is appropriate for this particular image.



4 Increasing the Radius further creates an abstract, airbrush-style background. This produces a vignette effect, which totally isolates the foreground object, but still provides visual interest over the entire image. By applying this to a duplicated background layer, and then adding a layer mask with a radial foreground to transparent gradient (as shown), the dream-like feel is accentuated.



Make some noise

Blurring an image not only softens the focus and smoothes out colours and details, it tends to remove grain as well. This can give the blurred layer an unwanted quality that sets it apart from other elements within the composition.

A little grain can be reintroduced by careful use of the Add Noise filter, which is discussed in more depth in Chapter 5.



Create shortcuts

Although some Photoshop filters are a bit wild and wacky, and sit waiting for the day that they'll be taken seriously as part of your work, the Gaussian Blur filter is one that most designers and artists use on a regular basis. Therefore, make use of Photoshop's facility for creating keyboard shortcuts to commonly used filters (Edit > Keyboard Shortcuts).

Creating text backscreen effects

Photoshop's tools make it simple to create this popular television-style effect



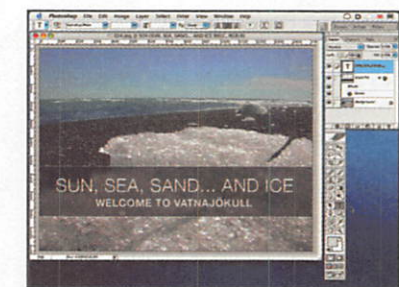
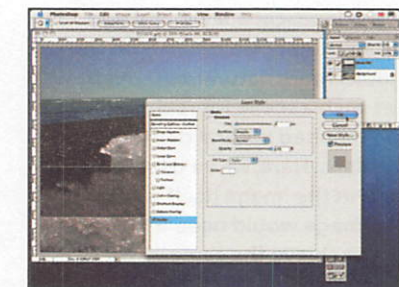
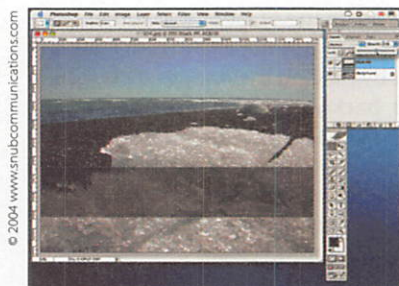
Make copies

Remember that if you blur your background layer the change is permanent. Therefore, if you're unsure how much blur to apply, duplicate the layer and apply the filter to a copy; you can do this as many times as you like. To ensure you blur the correct area, drag guides to the edge of the marquee selection in step one.



Taking things further

Although a rectangular text backscreen is fine, it sometimes pays to use a more interesting shape. Rather than using the Marquee Tool in step one, use the Polygonal Lasso. Hold down [Shift] while drawing with it to restrict the angles of the backscreen to 45 and 90 degrees.



1 Open up 024.jpg from the cover CD and create a new layer. Use the Rectangular Marquee Tool to draw a shape, as shown. Press [D] to reset the foreground and background colours to black and white, and then press [Alt]+[Backspace] ([Option]+[Delete] on a Mac) to fill the selected area with black. Use the Layers palette to lower the layer's Opacity setting to 50 per cent.

2 Don't deselect anything just yet. Go to Layer > Layer Style > Stroke... and set Size to 4px and Position to Outside. Click OK and a thin border will be created around the backscreen effect, making it stand out. As this is a layer effect, it can easily be amended. The image now resembles a standard backscreen effect, but adding a blur is becoming more common on television, so we'll do that next.

3 Still don't deselect anything. Go to the Layers palette again, and select the Background layer (the one with the photo on). Go to Filter > Blur > Gaussian Blur to bring up the Gaussian Blur dialog box. Try different values until you arrive at a figure that blurs the image, but still retains a little of the detail. Now, finally, you can deselect by pressing [Ctrl]+[D] ([Command]+[D] on a Mac).

4 The final touch is to add some text over the black fill layer, thereby completing the effect. Although common on television, this effect also works well in print, and on the web. However, should you be working with a lower resolution image, the stroke added in step two would need to be smaller, and you'd most likely require less blur in step three.

Blurring a sunset

Multiple use of the Gaussian Blur filter and the Fade command creates an interesting effect

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1 Here's our original image: a digital photograph of a harbour sunset (on the cover CD as 025.jpg). Although it already has plenty of atmosphere, we want to use the Gaussian Blur filter to create the sort of effect that you might see in a movie dream sequence: slightly over-exposed and blurred, but vividly coloured, and retaining some detail.



2 First we'll create a haze over the entire image. This is done by adding plenty of Gaussian Blur; a Radius setting of 20 pixels is suitable for our image, which is approximately 1600x1200 pixels. Such a large amount of blur removes most of the detail, so we'll use the Fade command to reduce the Opacity to 60 per cent, which blends the filtered version with the original, creating the haze effect.



3 Next, we need to remove some of the image's detail, flattening out some of the shapes, removing distracting highlights and further blending the colours. This is done by reapplying the Gaussian Blur filter (again with a Radius value setting of 20 pixels), and using the Fade command again. This time the Opacity is left at 100 per cent, and the blending mode changed to Darken.



4 The final step is to create the over-exposed lighting effect that's common in this sort of dream-like image. This is done by applying the Gaussian Blur filter for a third time (with the same settings as before), and again using the Fade command. This time set the mode to Linear Dodge, which creates the shimmering, other-worldly effect seen on the big screen. Leave Opacity set at 100 per cent.



Unique settings

Different images will require slightly different values to achieve this effect. The main change you'll need to make is in the final step, when applying the Linear Dodge blending mode. Because our walkthrough image is very colourful and saturated, we left the opacity setting at maximum. However, for typical daylight shots you may need to lower the opacity value to as little as 20 per cent to get a satisfactory result.



The Fade command

We've mentioned this elsewhere, but it's well worth repeating: the quick way to invoke the Fade command is to use the keyboard shortcut [Shift]+[Ctrl]+[F] (or [Shift]+[Command]+[F] on a Mac). Alternatively, you can access it via Edit > Fade.

The Smart Blur filter

For greater control when blurring your images, check out this often-neglected filter



A quick illustration

Try running the Smart Blur filter with a high Radius setting (of about 70), and a medium Threshold value (of about 40), with Quality set to High and Mode set to Edges Only. Click OK, and all that will remain are the edges the filter was working with. Invert the image, and you'll be left with a black and white illustration that looks like a cross between an ink sketch and something composed on an Etch-a-Sketch pad.



Quicker previews

The Smart Blur filter is demanding on your computer, and only provides a dialog box preview, not a live preview of your actual image. Therefore, it can be tricky to know how your settings will affect the whole image, and time-consuming to find out. For quicker previews set Quality to Low, regardless of the Quality setting you're going to use in the end. The result won't be entirely accurate, but it will provide a good indication of how a higher Quality setting might affect the image.

Unlike other blur filters, which affect the whole image, the Smart Blur filter only affects pixels that are similar in tone and colour, while leaving edges and details untouched. When used carefully, it's indispensable for rapidly repairing and correcting selections in photos, such as smoothing fine textures in material while retaining folds and edges. At more extreme values, when Threshold and Radius are maximised and Quality is set to High, the filter produces an artistic effect that resembles subtle airbrushing. This



In addition to having very practical photo-repair uses, the Smart Blur filter enables you to produce some interesting painterly effects

is effective for creating soft-focus illustrations that still have a firm grounding in the real world.

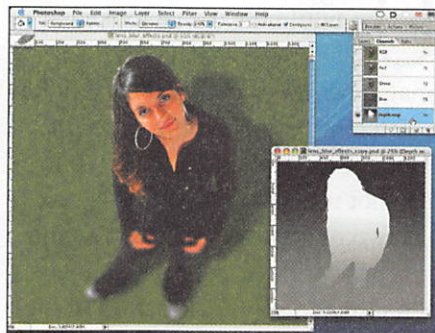
SMART BLUR SETTINGS

- ☐ **RADIUS DEFINES** the size of the area that the effect uses to search for contrasting pixels before blurring them. A higher value equates to less blurring and more edges.
- ☐ **THRESHOLD SETS** the blur's size by increasing the number of colours affected by the filter. At higher values, the image loses detail.
- ☐ **A HIGH QUALITY** setting doesn't always mean a 'better' image; it tends to smooth the image more, leaving fewer edges.
- ☐ **EDGE ONLY** mode shows the edges the filter uses (as pixelated white lines), instead of Normal mode's flat, blurred colours. Edge Overlay Mode shows both.
- ☐ **FOR A MORE** detailed image, increase the Radius value and decrease the Threshold setting; for a blobby, indistinct image, do the reverse.

The Lens Blur filter

The equivalent of a professional photographer's bag of tricks, this filter offers you myriad options

One of Photoshop CS's new filters, Lens Blur simulates all manner of optical effects. The filter is extremely flexible, enabling you to create a greyscale depth map that's used to determine the focus in different areas of the image. With options to alter the iris shape, size, rotation and curvature, add specular highlights and reintroduce noise into blurred areas, the filter provides a wealth of options for blurring and focusing images. Using a simple mask an extreme perspective effect can be created in minutes, and



The new Lens Blur filter enables you to use transparency, a layer mask or an alpha channel as a depth map

should you want to change settings later, you can just rerun the filter over a copy of the original image.



Protracted previews

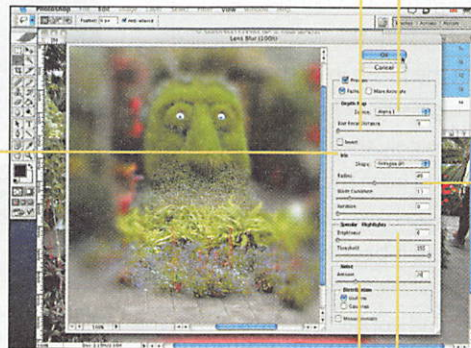
The Lens Blur filter is pretty involved, and the live preview can take a very long time to render when many settings are altered. Unless you have a state-of-the-art computer, check the Faster option in the Preview area, and if you have a lot of experimentation to do, work with a smaller version of your image.

THE LENS BLUR DIALOG

Blur Focal Distance sets the focal plane; i.e. the value determines the colour level of the depth map that's entirely focused (0 for black pixels through to 255 for white).

Changing the characteristics of a camera lens affects lens blur, and Photoshop provides options for doing this digitally in the Iris section.

When a blur is applied to an image grain is removed, which feels unnatural. Use the Amount slider to match the blurred area's noise to that of the focused area.



The Depth Map source can be an alpha channel or layer mask, or can be based on transparency settings. Click Invert to use white areas as foreground instead of black.

By amending the Radius setting you can increase the blur amount. An Iris shape with more sides and a larger Blade Curvature value tends to smooth blur highlights.

Use Specular Highlights to boost brightness values for a specific Threshold amount, enabling whites to stay white when the image is blurred (unlike with other blur filters).

The Motion Blur filter

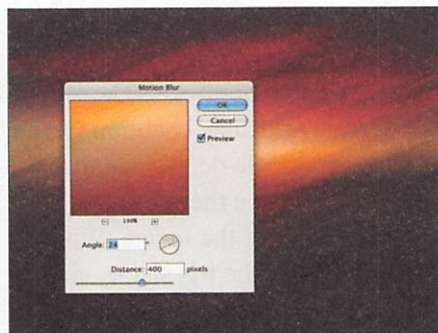
Create the impression of movement in your images with this simple but effective filter



Texture creation

Used in tandem with the Add Noise filter, the Motion Blur filter comes in particularly handy for creating all kinds of textures. Find out more about this in Chapter 5.

Up until now we've looked at blur filters that smooth an image, but the Motion Blur filter has a different purpose. It provides the effect of the camera moving while the shot was taken. The dialog box has two options: Angle enables you to type a value or drag the diameter of a circle to set the direction of the blur, while Distance enables you to set the blur distance, which can be anything from 1 to 999 pixels. The blur effect is distributed in both directions. As well as enabling you to create a feeling of speed, the



When the Distance value is set very high, the Motion Blur filter can be used to create effective textured backgrounds

Motion Blur filter also comes in handy for creating textures, as shown in the image above.

THE WIND FILTER

Does this filter blow up a storm, or is it just a load of hot air?

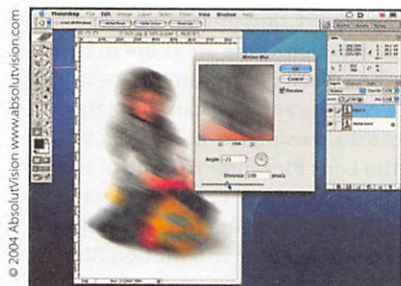
Although it's found in the Filter menu's Distort category, the Wind filter has many similarities with the Motion Blur filter. However, instead of blurring the pixels in both directions, it randomly offsets one-pixel-high strips of pixels to achieve a fine smudging effect. Unfortunately, the blur is limited to just two directions: from the left and from the right. To create the effect at any other angle, you have to rotate your image, apply the effect, and then rotate it back, which causes some distortion. However, the Wind filter can be useful, particularly when used with layer masks and applied in tandem with the Motion Blur filter to create a motion effect on a static image.



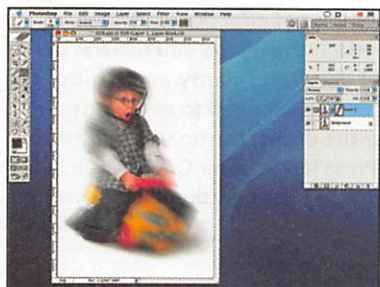
Unlike the Motion Blur filter the Wind filter only blurs pixels in one direction – left or right

Creating a feeling of speed

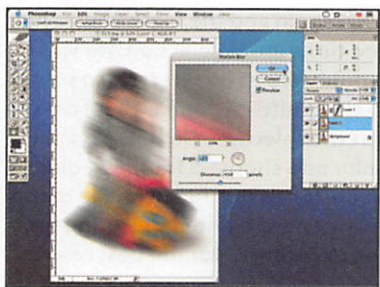
Let's look at how we can use the Motion Blur filter to get an image moving



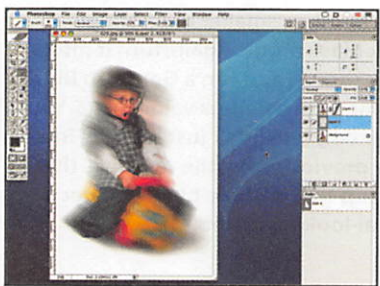
1 This walkthrough is based on 029.jpg on the cover CD – an image of a small boy sitting on a toy car. He has an expression of surprise on his face; we want to attribute this to the sheer speed of the toy. Duplicate the layer, select the copy and go to Filter > Blur > Motion Blur. Choose -25 for the Angle value and 100 for the Distance.



2 Add a layer mask to this layer and apply a foreground to transparent reflected gradient, revealing the middle portion of the original image but leaving the blur at the front and back of the toy car and boy. Carefully paint on the layer mask with a large, soft-edged airbrush at 50% opacity to reveal the boy's face, which would otherwise be blurred, reducing the impact of the image.



3 Duplicate the original layer for a second time. Select this new layer, and again go to Filter > Blur > Motion Blur to access the Motion Blur dialog box. This time, set the Distance value to 400 pixels, but ensure that the Angle value remains the same (-25). This creates a much larger blur than before, which we're going to use as a kind of background to emphasise the speed effect.



4 We now need to remove portions of this background in order for the original image to show through. Open the Paths palette, right-click ([Control]-click on a Mac) Path 1, and choose Make Selection from the palette menu. In the dialog box, check Anti-aliased, set Feather Radius to 0, and click OK. With the selection active, delete that portion of the most recently created layer.



The right angles

When working with the Motion Blur filter in this way, experiment with the Angle setting to get the blur to line up with the direction of movement. If this setting is out by more than a few degrees the final image won't look right.



Drawing the gradient

When applying the gradient in step 2, don't try to reveal the boy's face; you'll remove too much of the blur effect from the remainder of the image. Use the airbrush to reveal hidden portions of the image once the gradient has been applied. Also, when drawing the gradient, follow the lines of the motion blur.

Short depth of field effects

Use Quick Mask mode, Gaussian Blur and Motion Blur to simulate a plate camera effect



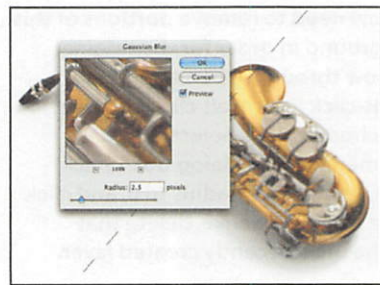
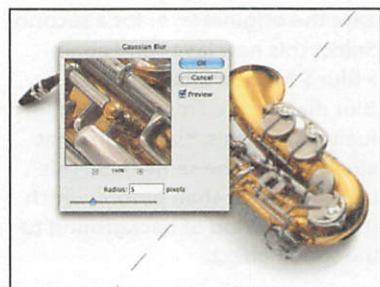
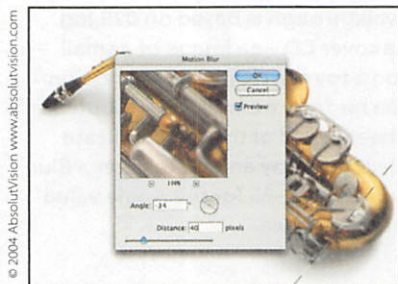
Stock image

For this walkthrough we're using the image 030.jpg, which can be found on your CD. You can, of course, use an image of your own, but if you do, ensure that the object within the image is at the necessary angle to create this kind of depth of field effect with some level of authenticity.



Duplicate image

Although blur tools are largely used to correct images, we're using them for more destructive purposes during this walkthrough. Therefore, work on a copy of your original file, and also work on a duplicate layer; you can then, if you want, blend the blurred image with your original.

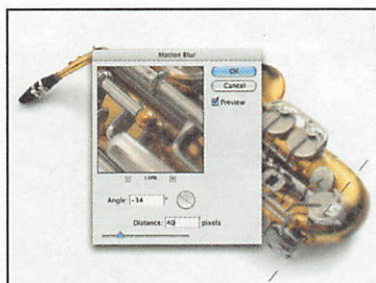


1 In many advertising images you'll see photos in which some areas are in focus and others aren't. Such photos tend to be taken using a plate camera, and you can simulate the effect in Photoshop using the blur filters. While we can use the Lens Blur filter to control blurs within specific areas of an image, we can't create all the effects we need, so we're going to work with Gaussian Blur and Motion Blur.

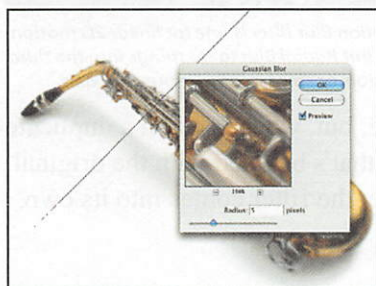
2 For this kind of effect to work well, ensure that the image you use has a good level of detail and clarity, and has no JPEG artifacts. We first need to make a mask in order to blur the end of the image nearest to the viewer. Press [Q] to enter Quick Mask Mode, and drag a linear gradient as shown.

3 Press [Q] again and the mask you've just created turns into a selection. We want the bottom-right area to be selected, so press [Shift]+[Ctrl]+[I] ([Shift]+[Command]+[I] on a Mac) to invert the selection. Go to Filter > Blur > Gaussian Blur and choose 5 for the Radius value. This value is suitable for an image of this size, but you may need a different setting for other images; experiment for the best results.

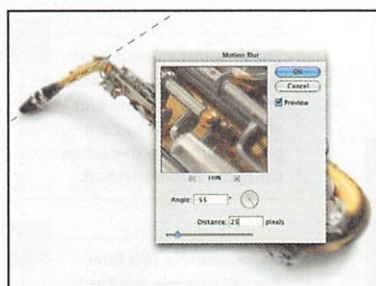
4 Draw another, smaller gradient in Quick Mask mode. Again, turn it into a selection, as shown, and run a Gaussian Blur filter, this time with a Radius value of 2.5. You may wonder why we didn't just blur the image more in the previous step; the reason is that by building up two or three blurs you get a more natural-looking result.



5 If you study images taken with a plate camera, you'll see some parts are slightly distorted. You can reproduce this effect with careful use of the Motion Blur filter. Make another mask in Quick Mask mode, with a fairly short gradient at the bottom-right of the image. Turn it into a selection, then go to **Filter > Blur > Motion Blur**. Set the Angle to follow the lines of the image, and Distance to about 40.



6 The same sort of effect now needs to be applied to the other end of the image. Create another mask in Quick Mask mode, this time at the top-left of the image, turn it into a selection and run the Gaussian Blur filter. Again, you may wish to repeat this step with another mask and another application of Gaussian Blur to get the effect you desire.



7 Create another Quick Mask, and use a very short linear gradient to make a selection right on the far edge of the object in the image. Again, run the Motion Blur filter, following the line of the image for the best effect; here we've set Angle to -55 and Distance to 25.



8 At this point the effect may be considered complete, but there are a few things you can do to improve it. For instance, you may wish to use the Lasso Tool to draw a selection around the central focus point of the image, feather the selection by about 10 pixels (**Select > Feather**) and then run the Unsharp Mask filter (**Filter > Sharpen > Unsharp Mask**).



Added realism

Don't go overboard with the filters in this walkthrough, or you'll end up with a very obviously treated image, rather than a realistic effect. If your original image isn't of very high quality, you may also need to apply some noise to the blurred areas to bring back natural grain. This kind of effect is discussed in depth in Chapter 5.



Alternate effects

Although the method used in this walkthrough is most suitable for simulating a real-world photographic effect, you can use it as the basis for more experimental efforts. For instance, try using one of the artistic filters instead of Gaussian Blur in step 3, to blend your image from a photograph to a painting.

The Radial Blur filter

Create exciting spinning and zooming effects with this versatile blur filter



Good or Best?

There's not a huge amount of difference between the Good and Best Quality settings, but the latter takes longer to render. Therefore, if you're in a hurry, stick to the Good setting.

The Radial Blur filter is a great choice for bringing a sense of movement or urgency to an image. Its two Blur Method options enable you to create an effect rather like spinning a camera around a centre point, or zooming into or away from the subject. Usefully, you can define the centre point for both blur types, and set the distance the pixels move to create the effect.

Because both methods are fairly extreme, this is another filter that needs to be treated with care. Even a small blur amount can wreck an



The Motion Blur filter is fine for linear 2D motion effects, but Radial Blur takes things into the third dimension, or spins images around an axis

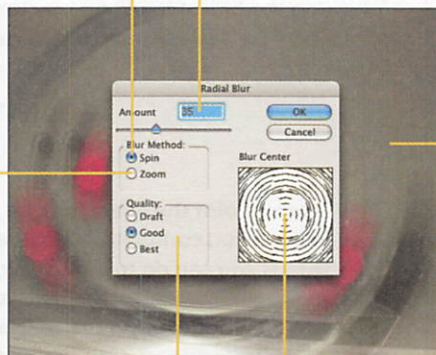
image, but, when used on a duplicate layer that's blended with the original image, the filter comes into its own.

RADIAL BLUR DIALOG BOX SETTINGS

The Spin blur method creates a circular blur effect that makes the image look like it's spinning around a central point.

The Zoom blur method creates the effect of a camera being zoomed into or away from the image.

The Quality setting determines the smoothness of the blur effect. Draft provides a slightly grainy appearance, but higher quality settings take far longer to render.



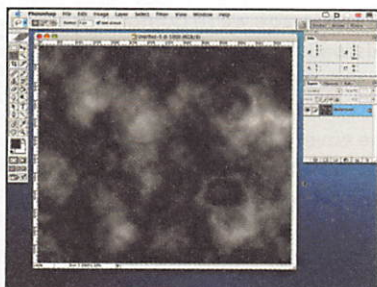
The Amount value defines the distance that pixels move in order to create the blur effect. Higher values are particularly effective when using the Zoom method.

Unfortunately, this filter doesn't provide any kind of visual preview, so there will often be an element of guesswork involved before you get things right.

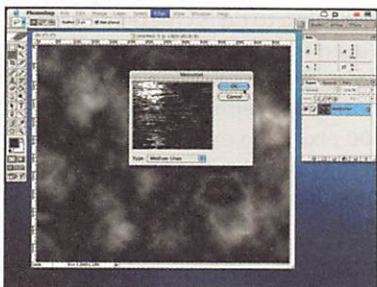
Blur Center provides a real-time line drawing indication of how the filter will affect your image; its centre can be dragged to define the centre point.

Create a zoom blast effect

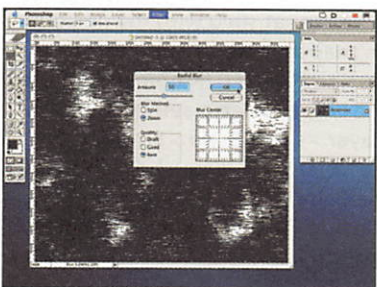
A popular effect for many digital illustrations, a zoom blast effect can be created in four steps



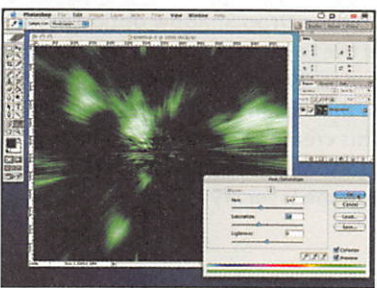
1 First we need to create a texture for the basis of the effect. You could use any image for this, but, for a random effect that will be unique to every version of this type of image, use the Difference Clouds filter. First, fill the background with black, then go to Filter > Render > Difference Clouds. Press [Ctrl]+[F] ([Command]+[F] on a Mac) to run the effect several times, for a richer texture.



2 If we ran a blur filter over the image as it stands it wouldn't have a great deal of impact, because there are too many shades of grey. We therefore need to pixelate the image, turning it into a bitmap. A quick way of doing this is by using the Mezzotint filter (Filter > Pixelate > Mezzotint). Change the Type to Medium Lines and press OK.



3 Now we use the Radial Blur filter (Filter > Blur > Radial Blur) to create the 3D zoom effect. Set the Amount to 50, and choose Zoom for the Blur Method. Select Best for the Quality, and leave the Blur Center as it is, assuming that you want the zoom to emanate from the centre of the image; if not, edit this setting to suit.



4 Once you've run the filter (which may take some time with larger images), you'll end up with a greyscale zoom effect. Go to Image > Adjustments > Hue/Saturation (or press [Ctrl]+[U], or [Command]+[U] on a Mac) to bring up the Hue/Saturation dialog box. Check Colorize, and use the sliders to add some colour to the image.



It's all about quality

Although in many cases you can get away with a lower Quality setting when using the Radial Blur filter, it's a good idea to stick with Best for this effect. Even if you use Good, the resulting image may have too much grain in it, and when using Draft the noise is even more noticeable.



Zoom amounts

The reason we used an Amount value of 50 during the walkthrough was because it provides an interesting effect that produces the zoom movement, but also retains some of the pixelation from the Mezzotint filter, creating subtle contrasts across the entire image. If you want a smoother effect, increase the Amount value to 100.

Snapshot effects

Create this striking effect that's commonly used in print, and in television commercials



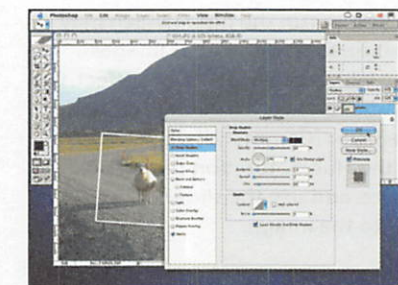
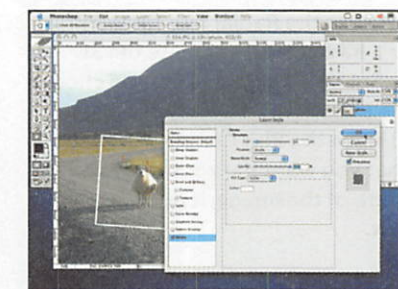
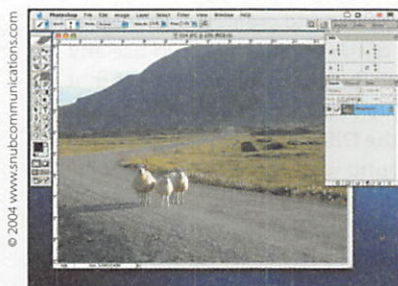
Stroke position

When creating the snapshot's border we advised using the Inside Position setting. This is because it's the only option that creates a perfect rectangle. Should you use one of the other options the corners of the selection will be rounded, which might be OK in some circumstances, but not for this image.



Editable effects

Because the stroke and drop shadow are applied as layer styles, they're easy to change at a later time. For instance, you might want a stronger drop shadow (in which case, increase the Opacity value) or a larger border (increase the stroke's Size setting). To update a style just double-click it in the Layers palette, and adjust your settings.

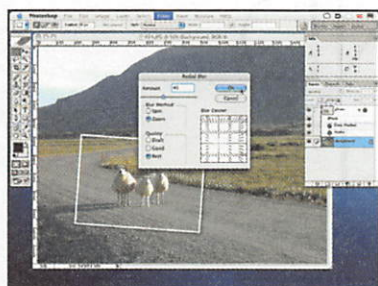


1 Here's the image we're going to use for this walkthrough. It's of some photogenic sheep (whether posing on a road is a good idea is another matter), and can be found on the cover CD as 034.jpg. What we want to do is draw attention to our subjects by using a snapshot effect.

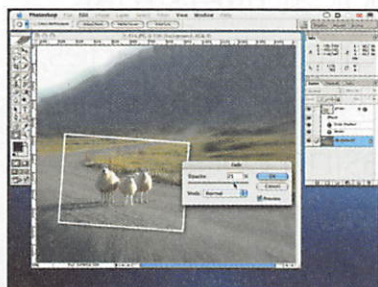
2 The first thing to do is create the area to be used for the snapshot. Use the Marquee Tool to draw a selection that's in the ratio of a photograph (either 7x5 or 6x4; we used 700x500 pixels). To make the image more dynamic, tilt the selection by going to **Select > Transform Selection** and entering a figure in the Rotate field.

3 Once you're satisfied with the position of the snapshot area, copy it to a new layer by pressing [Ctrl]+[J] ([Command]+[J] on a Mac). In the Layers palette, select this layer and go to **Layer > Layer Style > Stroke...** to bring up the Layer Style dialog box. Choose white for the Color, 10 for the Size and set Position to Inside. This creates a solid border for the snapshot.

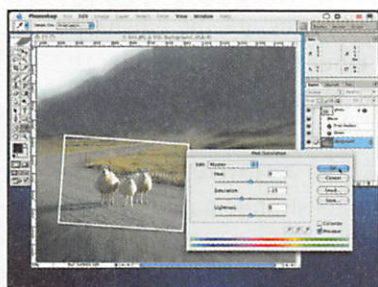
4 Click on the Drop Shadow option in the left of the Layer Style dialog box. Set the Opacity value to 50 per cent and the Angle to 140. Change the Distance setting to 10 and the size to 20. This creates a subtle drop shadow, cast to the bottom-right of the snapshot. Click OK to confirm the layer style choices.



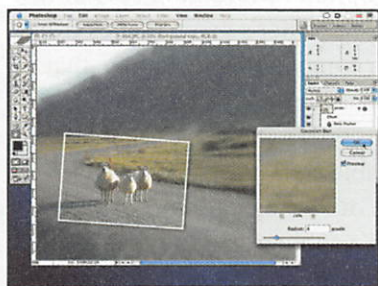
5 Next, we'll apply a Radial Blur filter to focus the viewer's attention on the snapshot. In the Background layer go to Filter > Blur > Radial Blur to bring up the dialog box. Choose 40 for the Amount setting, Zoom for the Blur Method and Good, or Better, for the Quality setting. Move the Blur Center to the approximate location of the centre of your snapshot and click OK to apply the filter.



6 The effect looks good; the movement provided by the filter effectively draws lines towards the snapshot. However, it's a little overpowering, and almost all of the background's detail has been lost. To improve the image, go to Edit > Fade and reduce the Opacity setting to 75. This blends the filter effect with the original, allowing some detail to show through.



7 To further focus the viewer's attention on the snapshot, and ensure that the background doesn't distract, go to Image > Adjustments > Hue/Saturation to bring up the Hue/Saturation dialog box. Setting the Saturation to -25 knocks the background colours back a little, making the snapshot seem all the more vibrant.



8 Sometimes effects like this are used for advertising work, and text needs to be added to the image. However, because quite a lot of detail remains, this might clash with any added text. In such circumstances it usually pays to reduce the brightness of the background layer, or run a Gaussian Blur filter over it; in this case we chose the latter option, setting the Radius value to 4.



Grain effects

Although we recommended using the highest Quality setting when applying the Radial Blur filter, also try this walkthrough with the Quality set to Draft. This results in a similar effect, but one in which the background layer is grainier, rather than having the smooth appearance of the one in our walkthrough.



Guessing game

Because the Radial Blur filter doesn't have a visual preview, you have to guess when setting the Blur Center. On large images, this filter takes an age to render, so it's often worth setting Quality to Draft until you get the centre point right, after which you can run the filter for a final time with a higher Quality setting.

Chapter 3

ENHANCING FOCUS AND CONTRAST

In this chapter...

- ☐ Learn about Photoshop's various sharpen filters
- ☐ Use the Unsharp Mask filter to enhance detail within an image
- ☐ Sharpen an image effectively using the High Pass filter

In this chapter we'll take a look at filters that can be used to enhance poor-quality images, or give decent images a boost, by means of sharpening them and increasing contrast

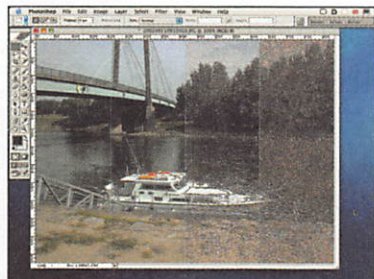
So far we've looked at filters that smooth images by blurring colours and details, and reducing contrast. Although these go some way to correcting problematic images, especially when used in tandem with blending modes, they're not always appropriate. After all, if you have a slightly blurred image, then blur tools are hardly going to improve matters, unless, of course, you want a slightly more blurred image.

In many cases, you'll instead need to make use of Photoshop's sharpen filters. These enable you to enhance detail in an image by increasing contrast. Three of the filters – Sharpen, Sharpen More and Sharpen

Edges – are presets, and, while they have their uses, it's the Unsharp Mask filter that tends to interest designers and illustrators the most.

What's in a name?

Despite its strange name, which may suggest that it removes the sharpness from an image, Unsharp Mask is a great option for bringing back lost detail; the filter's name comes from a film compositing technique that sharpens the edges of an image. Because it's not a preset, and has definable settings, Unsharp Mask is one of Photoshop's most-used filters, enabling you to bring back subtle detail that would otherwise be



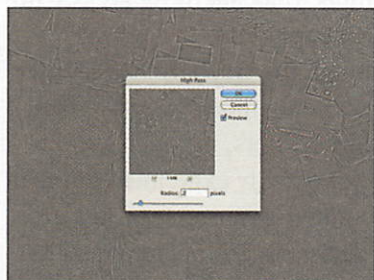
Page 38 Find out how to avoid nasty mishaps when using the sharpen filters



Page 39 See how Photoshop's various preset sharpen filters affect an image



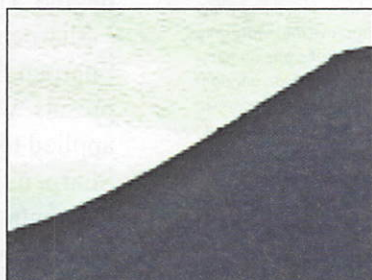
Page 40 Discover the creative potential of the Unsharp Mask filter



Page 41 The High Pass filter is a hidden gem of a tool for sharpening images



Page 43 Overlaying a desaturated image can bring life back to the original



Page 43 Put the High Pass filter to work, and sharpen an image effectively

lost in slightly blurry photographs. It's also of use when working on web images; making an image smaller always results in a slight loss of detail due to anti-aliasing, and Unsharp Mask can bring that detail back. At extreme settings, the filter also has creative uses, enabling you to create vibrant, highly saturated images.

However, it's in sharpening that the Unsharp Mask filter's real power lies, and many creative types claim that pretty much every image (especially photographic) should have this filter applied, because it works so well. While we wouldn't go quite that far, it is an undeniably useful filter; if we had to produce a

list of 'desert island filters', this one would probably top the list.

A hidden alternative

There's one other filter that can be used to effectively sharpen an image: the High Pass filter. Buried in the Filter menu's Other category, the process for using it is a bit more involved than the likes of Unsharp Mask, but this filter will often produce superior results.

In this chapter we'll briefly take you through the preset filters, look at the Unsharp Mask filter in a little more depth, and then check out the High Pass filter, showing you how to use it in a two-page walkthrough.

Preset Sharpen filters

Photoshop has three basic sharpening filters, the effects of which are applied instantly



Sharpening scans

Although high-end scanners tend to have built-in sharpening filters, which improve the clarity and detail of scans, home scanners generally don't have anything nearly as sophisticated. In fact, if you have a cheaper machine, it's advisable to turn off any sharpening features, and sharpen scans yourself in Photoshop.

The Filter menu's Sharpen category houses four options, but only Unsharp Mask (discussed on the next page) provides a means of controlling the effect to any degree. The remaining three options – Sharpen, Sharpen More and Sharpen Edges – are all Photoshop presets, which are immediately applied to an image when selected. Sharpen filters work by increasing the contrast between adjacent pixels, essentially making the light areas of an image lighter and the dark areas darker. In practice, the Sharpen filter

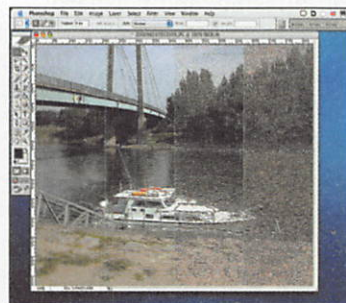
is quite subtle, and the Sharpen More filter approximately twice as powerful. The Sharpen Edges filter works in a slightly different way; instead of affecting the entire image, it attempts to locate those areas with the most contrast.

Although the Unsharp Mask filter is undoubtedly more versatile than these basic filters, they can still be useful for quickly experimenting with sharpening. For instance, you can apply sharpening in increments by selecting Sharpen and pressing [Ctrl] + [F] ([Command] + [F] on a Mac).

DON'T OVERDO IT

Too much sharpening can ruin your images

Although you can increase the impact of an image by using Photoshop's various sharpen filters, it's easy to go too far. With many images – particularly those that have been reduced in size for the web – gradually incrementing the amount of sharpening improves the image, but there's a cut-off point where the contrast between adjacent pixels becomes too much. At this point, halos start to appear in areas of high contrast, and further sharpening of the image eventually results in a bizarre (and usually colour-heavy) patchwork effect, somewhat akin to a still from a de-tuned television, and not a great deal of use for anything.



The segment on the left is unfiltered, then the Sharpen More filter is applied once, three times and five times

The Sharpen filters compared

The three preset Sharpen options affect an image in different ways, as you can see here

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1 This is a portion of a fairly typical hi-res JPEG image from a stock photography library. Because it's a JPEG image, we blurred the colours as per the method explained in the 'Reducing JPEG artifacts' exercise in Chapter 2. We're now going to apply the different preset sharpen filters to the image, to see how they affect it. Because the effects can be subtle, we'll apply each one twice.



2 The standard Sharpen filter's limitations are plain to see when you look closely at this image. Because you have no control over how the filter is applied, the entire image is sharpened by the same amount. After just two applications some slight halos are beginning to appear, and the grain in the original image (from the film grain and the JPEG compression) is starting to become apparent.



3 The Sharpen More filter produces the same effect, only more so. After two applications, the image is pretty much ruined; halos are everywhere, and the sharpened grain and JPEG artifacts have created an unwanted background texture across the entire image.



4 By comparison, the Sharpen Edges filter has done a fairly good job, with no halos visible even after two applications of the filter. However, Photoshop applies the filter on the basis of where significant tonal changes occur. Therefore, plenty of actual edges in the image haven't been emphasised by the filter, leading to an unbalanced effect.



Use History

You can easily compare the effect on an image of multiple applications of the Sharpen filter. For instance, apply the filter three times, then use Photoshop's History shortcuts to move backwards one or more steps ([Ctrl]+[Alt]+[Z] or [Command]+[Alt]+[Z] on a Mac), or forwards one or more steps ([Ctrl]+[Shift]+[Z], or [Command]+[Shift]+[Z] on a Mac).



Use masks

Like any other filter, Sharpen filters can be used with layer masks. Duplicate a layer, sharpen it, and then use a layer mask to block out areas of the image that you don't want to be sharpened.

The Unsharp Mask filter

This is one of Photoshop's premier filters, and provides professional-quality sharpening tools



Web images

When images are reduced in size, the anti-aliasing effect is the equivalent of blurring the image slightly. This becomes more obvious when images optimised for print are reduced to tiny sizes suitable for the internet; to bring back some of the lost detail, run the Unsharp Mask filter over an image. If you regularly work with web images of a certain size, save time by configuring this task as an action with a keyboard shortcut.



Avoid halos

Don't overdo the Unsharp Mask filter, or you'll end up with halos at edges within your image. You can avoid halos entirely by converting an image to Lab Color mode (Image > Mode > Lab Color) and applying the filter to just the Lightness channel; this sharpens the image detail, but leaves the colour channels untouched. When you're done, convert the image back to the colour space you were using before.

Despite what its name might suggest, the Unsharp Mask filter (Filter > Sharpen > Unsharp Mask) does an excellent job of sharpening images. The filter takes its name from a film-compositing technique that emphasises the edges of an image, and it works in a similar way, finding areas in an image where major tonal changes occur and applying a white and black line to either side of the edge to create the illusion that it's sharper than it is. The filter is essential to the majority of Photoshop users, and its options



When Amount and Radius are at their maximum values and Threshold is set to 0, the Unsharp Mask filter produces vibrant, highly saturated images

(which are explained below) provide you with a means of fine-tuning the clarity of any image.

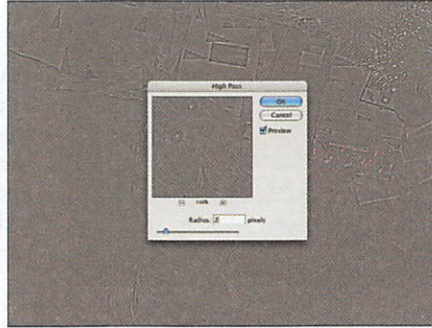
THE UNSHARP MASK DIALOG BOX

- ☐ **THE AMOUNT** setting has a range from 1% to 500%, and determines the degree to which the image will be sharpened. Low values will have little effect on an image, while values that are too high will introduce thick lines around edges, flattening colour and creating a highly stylised but unnatural appearance.
- ☐ **THE RADIUS** setting controls the thickness of the sharpened edges. Its value can range from 0.1 to 250 pixels; the higher the value, the higher the level of contrast in the image.
- ☐ **THE THRESHOLD** setting controls which pixels are affected by the filter. For neighbouring pixels to be affected, the difference in brightness between them must be higher than the Threshold value. Therefore, at a setting of 0, the lowest value, all pixels are affected, but at 255, the highest value, very few are.

The High Pass filter

This often-overlooked filter is an essential component of any image repair toolkit

Seeing as we've now explored all the options in the Sharpen filter menu, you may be wondering why this chapter hasn't come to an end. The reason is that another extremely useful filter for sharpening can be found under the Filter menu, tucked away in the Other category. The High Pass filter enables you to isolate the high contrast areas of an image, which usually relate to the edges. The effect of the filter is to produce a largely greyscale image, which on its own isn't much use. However, when used in combination with layer



The High Pass filter's straightforward dialog box belies the power this filter gives to designers and illustrators who need to sharpen an image

blending modes it can be an effective method for sharpening an image, as we'll see in the walkthrough overleaf.



Make it intense

If you've got a washed-out digital snap that was taken on a rather dismal day, and you'd like to give it some additional punch, here's how. Duplicate the layer, and run the High Pass filter with a Radius value of about 8 pixels. Then set the layer blending mode to Color Burn and reduce the Opacity to about 60%. The image will appear sharper, and sunlight and colour will be more intense.

THE HIGH PASS FILTER EXPLAINED

- ☐ **RADIUS** is the only definable option in the High Pass filter's dialog box. The setting's value range is from 0.1 to 250 pixels.
- ☐ **HIGH SETTINGS** for the Radius only slightly distinguish between high-contrast and low-contrast areas. At the higher end of this scale, a low setting has the effect of changing some of the colours, seemingly adding a blue sheen. As the value gets lower more colours turn to grey, and areas of contrast are more easily distinguished.
- ☐ **LOW SETTINGS** (below 10 on a typical digital photograph) pick out only areas of very high contrast, rendering them in dark grey, and areas of very low contrast, which are rendered in a medium grey,
- ☐ **THE PREVIEW CHECKBOX** enables you to toggle the live preview on and off, although in practice it's tricky to tell whether the settings will have the desired effect until you use layer blending modes (see overleaf).

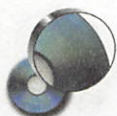


Natural media

Although the High Pass filter is most often used to sharpen an image, it has other uses too. Because it isolates the edges within an image it can be used as part of the process for creating a pencil sketch effect; find out how on page 109.

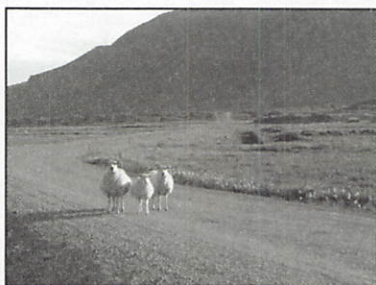
Alternate sharpening methods

Here are three ways to sharpen an image, using Unsharp Mask, duplicate layers and High Pass



An image to use

If you've been working through the pages in order you'll recognise our photo of posing sheep. Should you wish to use this image in the walkthrough you can find it on the cover CD; the file name is 034.jpg.



Unique settings

Remember that the settings used in this walkthrough are specific not only to the image we're using, but also to the kind of effect we want to create. Although the general methods discussed can be used with almost any image, you'll need to experiment with the settings to get the best results when using your own images.

1 Although digital cameras have revolutionised photography, enabling you to view hundreds of photographs for no additional cost, the trade-off is in the file format that many such cameras use. JPEG is a 'lossy' technology, and, unless you're very careful, images can end up looking desaturated and lacking in detail. Fortunately, such problems can be rectified with a little work in Photoshop.

2 The most common filter people jump to is Unsharp Mask (Filter > Sharpen > Unsharp Mask). Here, we've overdone the effect, so it's obvious in print, setting Amount to 150, Radius to 10 and Threshold to 20. As you can see, all of the details in the image have been brought to life, making the whole thing rather more striking, but the filter has brought with it some problems...

3 Here, we've zoomed in on the image. You can see how the Unsharp Mask filter has caused problems with the colours; they're over-saturated, and have too much contrast. Obvious halos have developed, and the JPEG artifacts in the image are more prominent. This last issue can be addressed to an extent using the method shown on page 22, but the other problems require alternative solutions.

4 The problems are largely down to the colours being sharpened, when all we want to do is enhance the details. It therefore follows that we should isolate the image's tonal range, and discard its colours when sharpening. To do this, duplicate the original image on to a new layer, then desaturate it by going to Image > Adjustments > Desaturate, or hitting [Shift]+[Ctrl]+[U] ([Shift]+[Command]+[U] on a Mac).



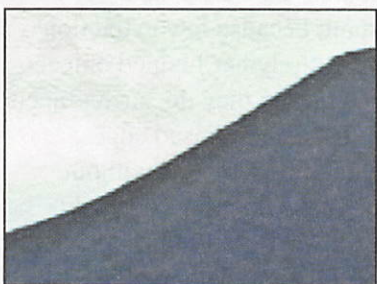
5 Use the Layers palette's blending mode pop-up menu to change the desaturated layer's blending mode to Hard Light. This makes the layer's lightest and darkest areas affect the image beneath, but not the mid-tones. This alone has the effect of accentuating an image's details, although the colours are slightly dulled in the process.



6 Here we can see the image zoomed in, and it looks a lot better than the effect that we got using the Unsharp Mask filter. The colours aren't affected as much, and, although the details aren't quite as sharp, this is still a useful method for emphasising details. To counter the slightly dulled colours, you could always increase the saturation of the bottom layer slightly.



7 We're not done yet. Next, go to Filter > Other > High Pass to bring up the High Pass dialog box. The value range is from 0 to 250 pixels, and each image requires a different value to create a balanced level of contrast. Here, a value of 10 pixels produces a pleasing result that's on a par with the Unsharp Mask filter settings used in step 2.



8 Because the layer's blending mode was changed prior to running the High Pass filter we're able to see how the final image will look, and also how the filter affects just the desaturated layer (by looking at the High Pass filter dialog box's preview area). As you can see, the image is now suitably sharp, but the colours haven't been affected as they were when the Unsharp Mask filter was applied.



Multiple windows

When working with image correction filters, it pays to use multiple views of an image. That way you can see how the settings you're applying affect the entire image, the image at full size, and also a zoomed-in version of the image. You can create new views of a window by going to Window > Arrange > New Window for (document name). Beware, though, because this will slow down Photoshop's performance.



Easy does it

It's very easy to go overboard when sharpening an image. Because almost any image looks better when sharpened slightly, it's tempting to sharpen just a little bit more, and then a little bit more... For this reason, it can be useful to work on a duplicate layer, sharpen it slightly, and then duplicate that layer and sharpen it some more; this will enable you to use the Layers palette to rapidly switch between different versions of the same image in order to compare them.

Chapter 4

ISOLATING AN IMAGE FROM ITS BACKGROUND

In this chapter...

- ☐ *Learn about the Extract filter's dialog box options*
- ☐ *Discover how to use the filter to separate an image from its background*
- ☐ *Find out how to fine-tune extractions to get the best possible results*

One of the Filter menu's three 'applications within an application', the Extract filter enables you to separate an image from its surroundings, offering you a wealth of creative opportunities

Most images you come across don't have each individual element on a separate layer. For instance, photographs are flat images, and you can't simply drag an object within a photo and move it around at will, or place it against a different background. If you're lucky – and we mean really lucky – then you may never have been in a situation where you needed to take a portion of an image, separate it from its background and deposit it in entirely new surroundings; however, for most designers and illustrators, this is a requirement that crops up from time to time. In the old days, such extractions were

a time-consuming and maddening experience – but not any more.

Hair today, gone tomorrow

Photoshop has a number of tools that are designed to enable you to isolate an object from its surroundings, even retaining edge elements such as hair and other fine details. This is particularly important, because few extractions involve entirely hard-edged objects, and, even when they do, such objects tend to have anti-aliased edges, which can't be removed without making the extraction extremely obvious. One of the common methods of creating complex



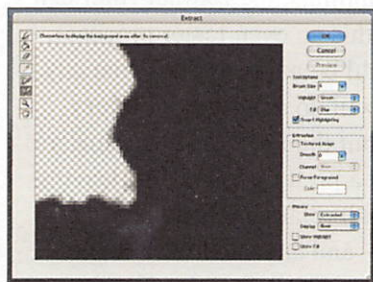
Page 46 Find your way around the Extract filter's dialog box



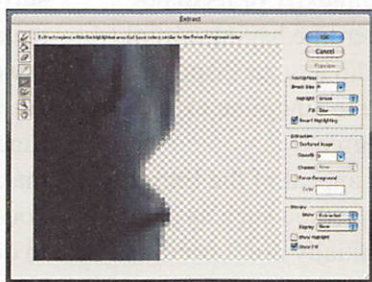
Page 47 Create an outline around an image element that you want to extract



Page 48 Use different backgrounds to see how effective the extraction has been



Page 48 Use the Edge Touchup Tool to rapidly clean the edges of the extraction



Page 49 Fine-tune the extraction mask with the Cleanup Tool



Page 49 Replace portions of an image with alternative photography

selections in Photoshop has been to make use of paths, and stock photographs – particularly images that contain figures or items shot on a plain background – will commonly be supplied with pre-defined paths. However, if you're working on an image of your own, or one that lacks a ready-made path, creating a path can be a fiddly business.

Photoshop also includes the Background Eraser Tool, which is both powerful and flexible, enabling you to use a configurable brush to selectively delete pixels of a specific colour or group of colours. The dialog window features a number of options, with controls for tweaking

the tolerance, fine-tuning which colours are erased, and protecting a specific colour from being erased.

Subtle separation

Although both path selections and the Background Eraser Tool will enable you to produce more than satisfactory results, the Extract filter takes things a step further, effectively providing you with a masking studio within a dialog box. As we'll see in this chapter, although the Extract filter has the appearance of a complex workshop, with a large number of configurable options within its dialog box, it's actually fairly easy to get the hang of it.

The Extract filter explained

The interface may look daunting, but you'll soon get the hang of this very useful tool



Use a graphics tablet

If you do a lot of extractions, make life easier by getting a graphics tablet. It's much more natural to trace the edges of an on-screen object using a pen-like tool, rather than a clunky mouse.

The Extract Filter, which can be found in the topmost group of Filter menu options, is one of a few Photoshop filters that feels more like a full application, due to the apparent complexity of its dialog box. It's rather like having a mini masking studio at your disposal, enabling you to fine-tune extractions to the nth degree.

Part of the appeal of the Extract filter over a method such as paths is that you initially don't need to be particularly precise. You can draw a fairly rough outline around

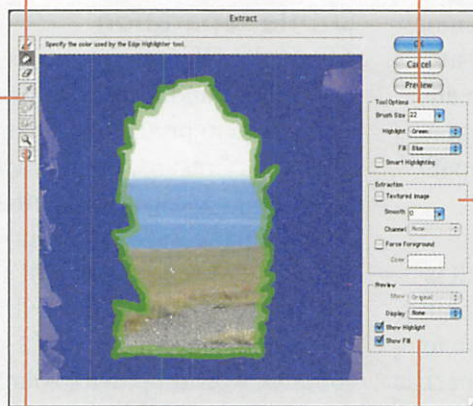
the object you want to extract, fill the selection, and let the filter do its work (and, if you're lucky enough to be extracting something that has plenty of contrast with its surroundings, the Extract filter can make this an even faster process). It would be naive to think that any filter will do a perfect job every time, but the Extract filter usually makes a pretty good effort, leaving you with relatively little tidying up to do – and any such tweaking is easy, thanks to the Edge Touchup and Cleanup tools.

THE EXTRACT FILTER DIALOG BOX

The top group of tools is used during the first stage of the process, and enable you to create an outline, fill your selection and erase mistakes.

Beneath the Eyedropper Tool you'll find the Cleanup Tool and the Edge Touchup Tool, which are used to tweak the extract preview.

The final two tools are used to zoom in to and out of your image, and to move it around, making more precise masking possible.



The Tool Options section of the dialog box enables you to define settings for the selected tool, and alter the Highlight and Fill colours.

The Extraction section contains options to assist you when extracting sections of a textured image, and to force a foreground colour to be preserved.

The dialog box's Preview section enables you to toggle between the original and extracted images, and vary the display settings.

Extracting an image

Here's how to extract a portion of an image, and replace the deleted area with something new

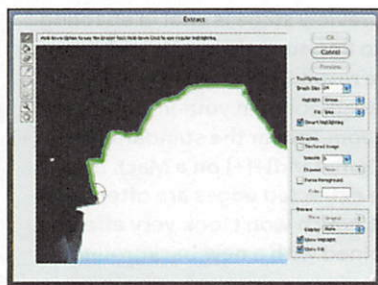
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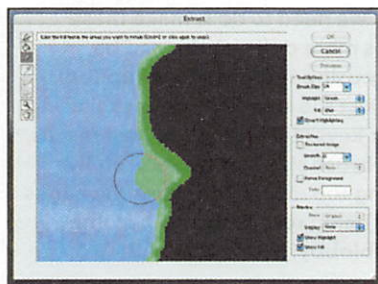
1 Sometimes you find that reality just isn't what you're after. In such circumstances, you may want to remove a portion of an image and replace it with something else, thereby ending up with a more visually appealing result. In the case of this image (on the CD as 047.jpg), what's seen through the rocks is rather weak; we want to replace the view with a stronger image.



2 We need to create a mask to preserve the rocky area of the image, thereby extracting it and effectively deleting the sea area background. Open the Extract filter, select the Edge Highlighter Tool from the toolbar at the top-left of the dialog box and check Smart Highlights in the Tool Options area.



3 Carefully draw around the outline of the rocks as shown. The size of the brush can be amended via the Brush Size setting; for the best results this needs to be at a low setting. If you have Smart Highlighting checked Photoshop automatically uses the narrowest brush size on areas where the edges are well defined, although you won't be able to [Shift]-click to create straight edge highlights.



4 Although the above method tends to work well in most cases, a slip of the hand can produce the odd poorly defined edge highlight. The Extract filter works best when you're more precise. Therefore, when you're done with outlining your subject, zoom in and fine-tune the outline, using the Eraser Tool to carefully delete superfluous areas of the highlight.



Standard shortcuts

Many of the standard Photoshop shortcuts work as you might expect within the Extract filter's dialog box. Use [B] to select the equivalent of the Brush Tool (here called the Edge Highlighter Tool), and [or] to decrease or increase the size of the brush you're using. Other common shortcuts are: [G] (Fill Tool), [E] (Eraser Tool), [I] (Eyedropper Tool), [Z] (Zoom Tool) and [H] (Hand Tool).



Other important shortcuts

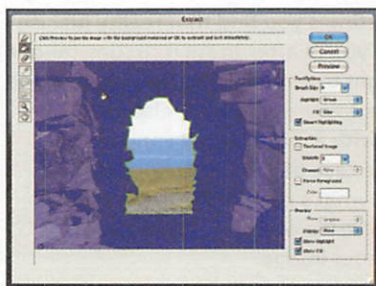
While we're on the subject of shortcuts it's worth mentioning the keys for accessing the two main commands specific to the Extract dialog box. [C] selects the Cleanup Tool, and [T] selects the Touchup Tool. Get used to working with these keyboard shortcuts, as they speed up workflow considerably.

Extracting an image continued

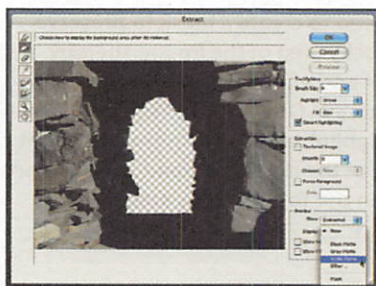


Limited undos

Most Photoshop users are used to the fact that they can use the History to retrace a number of steps. However, when you're in the Extract filter, you're restricted to a single undo.



5 Once the selection is complete you need to use the Fill Tool to fill your selection, thus creating the mask. For this to work as expected there must be no breaks in the outline (if the entire image is filled, carefully check your outline for holes). Remember to fill the correct area – the area you want to keep.

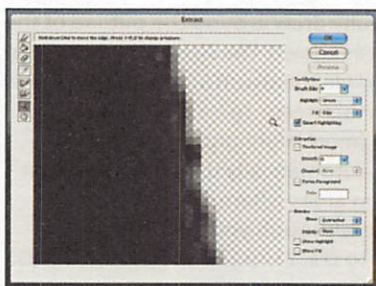


6 Click Preview and you'll get an indication of how the extraction will look (a fast way of getting to this stage is to [Shift]-click when using the Fill Tool; Photoshop will automatically create the preview). The Display pop-up menu provides several options for how the transparent area should be displayed. Choosing different options can help you to find stray pixels in subsequent steps.

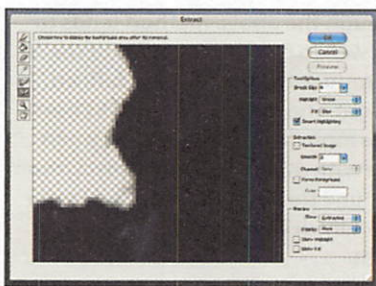


Work on duplicates

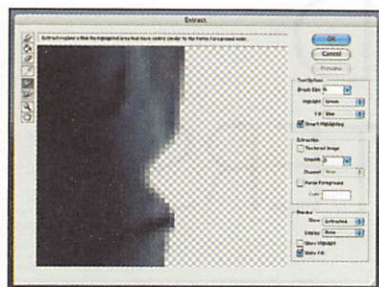
The Extract filter is a powerful beast, but it takes some getting used to, and mistakes are easily made. It's therefore a good idea to work on a duplicate layer, so you always have a copy of your original image to go back to if things go wrong. Also, if you work on a duplicate, you can easily compare the extracted image with the original after the filter has been applied.



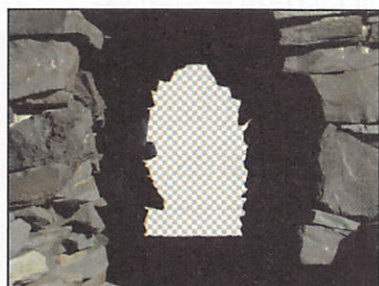
7 The preview stage is vital in enabling you to fine-tune the mask, and greatly improve the result. Therefore, don't click OK just yet. Instead, zoom in your image (either using the Zoom Tool or the standard [Ctrl]+[+] shortcut ([Command]+[+] on a Mac). You'll see that the extracted edges are often semi-transparent, which won't look very effective when combined with a new background.



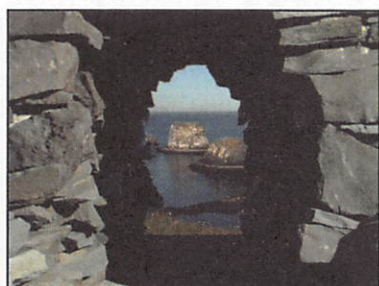
8 What we need to do is make these edges more defined; this can be achieved by using the Edge Touchup Tool. You can adjust the strength of the tool using the number keys (1-9 and 0). For best results, use a small brush size and work carefully, not dragging too much, otherwise the edges can end up being reshaped and become somewhat 'blobby'.



9 To further edit the mask, select the Cleanup Tool. By default, this makes the mask transparent, removing portions of your extracted image. If you press [0] it erases to full transparency, but if you press other numeric keys the transparency level is adjusted to ten times that of the number pressed (i.e. 50 per cent when [5] is pressed). Hold [Alt] ([Option] on Mac) to reverse the effect, and add opacity.



10 Click OK and Photoshop performs the extraction. Ensure that everything looks as you want it to before doing this, as you can't go back into the filter for further tweaking (although you can use the History Brush to restore details that, in retrospect, you didn't want the Extract filter to delete). As you can see, the non-extracted area will turn transparent in the image window.



11 All we have to do to add a new background is paste a new image into a layer underneath the layer on which we performed the extraction. The image used here is on your CD (049_background.jpg). When the two images are combined the tunnel no longer looks like a window on what's beyond, but rather like a path from which you could reach the landscape beyond.



12 Using a mixture of layer duplication, a gradient mask and the Gaussian Blur filter, the image's focus can be adjusted to create a more natural effect; the grass remains in focus, but the more distant sea does not. With the extracted element of the image on a separate layer to the background the effect could easily be reversed, to make the rock tunnel out of focus and the background sharp.



Edge touch-ups

It pays to take your time when working with the Edge Touchup Tool; although it adds definition to edges, it also has the habit of making fairly major changes to the outlines if you drag too much, or apply too much pressure. If this happens you'll need to repair and rework the edge by using the Cleanup Tool, then the Edge Touchup Tool again.



Correct lighting

The Extract Tool is most commonly used for the kind of job featured in this walkthrough: to extract an object, or portion of an image, and place it on a new background. If you want a realistic effect, pay attention to lighting in particular (direction and colour). For instance, had we placed a sunset through our rock tunnel, the bluish hues reflected off the tunnel walls would have made it obvious that this image had been faked.

Chapter 5

THE TEXTURE, NOISE AND GRAIN FILTERS

In this chapter...

- ☐ Learn to manipulate noise and grain
- ☐ Discover Photoshop's built-in texture filters
- ☐ Create your own textures using Photoshop filters
- ☐ Use grain to simulate print and film effects

In Photoshop, each image you create starts out with a surface that looks perfectly smooth, but you can use the application's native filters to add a wide range of surface textures

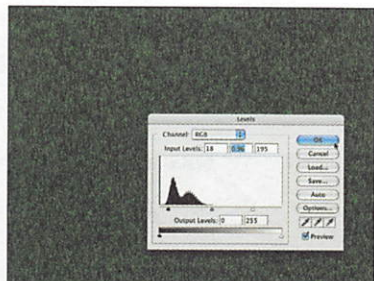
Take a look around you and you'll see textures everywhere, from the subtle relief of wallpaper to the regular patterns on red-brick houses. Artwork that's created using natural media also has a physical surface quality that's absent from digital imagery and, although many images work well with a plain, smooth background, there will be occasions when you'll want to add some depth or a tactile quality to your work. Photoshop enables you to do this through a wide range of native filters.

The Filter menu's Texture category is a logical place to look for such effects. This menu is home to five

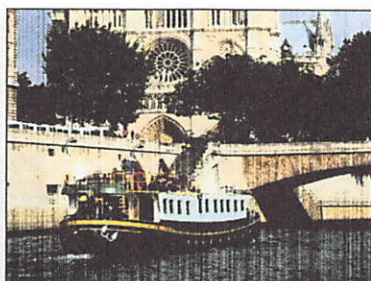
filters, including four varied presets, plus the versatile Texturizer filter, which enables you to rapidly create a wide range of patterned surfaces that resemble canvas, burlap or stone, and even load in your own custom textures.

Weave some magic

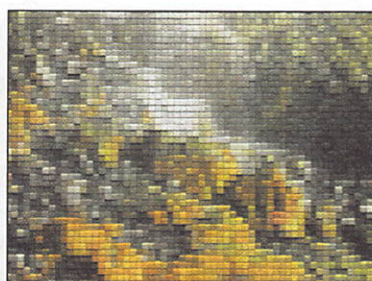
The other texture filters enable you to imitate materials that you may not have even considered for digital artwork. For instance, the Patchwork filter has a number of settings that can turn an image into something resembling a woven carpet, an intricately sewn patchwork quilt cover or even just a simple grid



Page 54 Create textures such as grass and fur using the Add Noise filter



Page 57 The versatile Grain filter can create a number of different effects



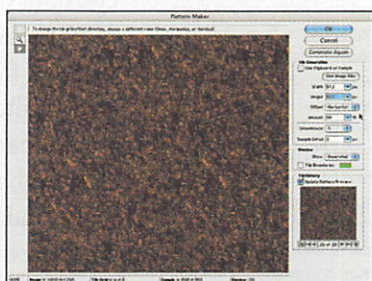
Page 60 Simulate woven fabrics and other materials with the Patchwork filter



Page 63 Add realistic surface textures to your work using the Texturizer filter



Page 64 Reproduce newspaper-style dot effects with the Halftone Pattern filter



Page 69 Generate seamless tiled images using the Pattern Maker filter

pattern, with each cell containing slightly offset flat colour.

Weave some magic

Despite the number of dedicated texture filters available, the filter that takes up the first third of this chapter is Add Noise. Most designers use this to simulate film grain, and specifically to reintroduce some texture to areas of a photographic image that have been overly smoothed. However, when combined with other filters – notably blur effects – Add Noise enables you to rapidly create new textures.

Other grain effects are available in Photoshop too, and although these

are more geared towards replicating real-world grain effects, they're still capable of creating a number of artistic effects. The Grain filter is particularly useful for this, as are the two halftone filters, Halftone Pattern and Color Halftone.

We also use this chapter to explore another Photoshop 'application' – the Pattern Maker. Housed within the Filter menu, this involved dialog box enables you to use any image to create a seamless tiled pattern, which you can then use as a background effect, or load into the Texturizer filter to use as a surface texture on another of your creations.

The Add Noise filter

Use this filter to bring some much-needed texture back to overly pristine images



Reduce gradient banding

Even if you use the Dither option when creating them, complex gradients can cause banding problems when printed. You can reduce the amount of banding by using the Add Noise filter to introduce a small amount of Gaussian noise. Although this reduces the smoothness a little, it still tends to look better than banding.

There's a school of thought that suggests overly polished images are too clinical, and feel cold and harsh. This is often true of highly worked images in Photoshop; constant cleaning up and subtle uses of blurs can remove the texture and warmth from an image. The Add Noise filter (Filter > Noise > Add Noise) can bring it back, producing a natural grain effect in photos. The other main use for this filter is in the creation of textures, something we'll be exploring over the next few pages. In combination with other filters



Convert an image to greyscale and add around 10% monochromatic noise to simulate a grainy, highly filtered black and white photograph

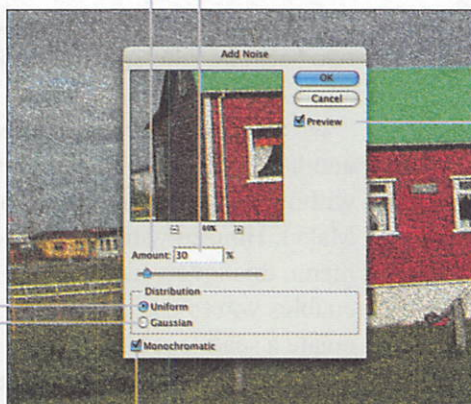
Add Noise proves highly useful in this area, making it one of the truly indispensable Photoshop filters.

THE ADD NOISE DIALOG BOX

The Amount value determines how far the colour of each pixel within the image can vary from its current setting; larger values produce noisier images.

The Uniform Distribution option applies colours randomly within the specified Amount range, so colour distribution is even throughout the image.

With Gaussian selected, Photoshop applies colours using a Gaussian curve; noise colours in each pixel tend to be shades of the original, giving a more distinct effect.



In this image Amount is set to 30%, producing an obvious grain effect; 10% produces a more subtle film grain, and 400% produces total noise.

The Add Noise dialog is one that provides a live preview of your image. Toggle the Preview checkbox setting to rapidly compare 'before' and 'after' states.

By default, the Add Noise filter randomly distributes pixels on each colour channel; when selecting Monochromatic, you instead get a greyscale noise effect.

Creating rain effects

You can make it rain on the driest of days by using the Add Noise and Motion Blur filters

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1 It was a fine day when this photograph of central Reykjavik was taken (053.jpg on the CD), but we can easily create an effect that resembles a summer shower. Go to Filter > Noise > Add Noise to access the Add Noise dialog box. Set Distribution to Gaussian and ensure that Monochromatic is checked. For our image, which measures 1600x1200 pixels, an Amount setting of 10% is sufficient.



2 Next we can make it rain by adding a blur to the noise that we've introduced. Go to Filter > Blur > Motion Blur to bring up the Motion Blur dialog box. Set Angle to 95 and Distance to 20. Depending on the dimensions of your image, and the amount of 'rain noise' you want, the Distance setting may need amending. Click OK and you'll have a blurry image resembling rain-filled vision.



3 Now we're going to make it rain only in the distance. Work through the first two steps again, but on a copy of the image that's on a duplicate layer. This time set the blending mode of the 'rain noise' layer to Overlay.



4 The image is now oversaturated, so select the 'rain noise' layer and go to Image > Adjustments > Desaturate or press [Shift]+[Ctrl]+[U] ([Shift]+[Command]+[U] on a Mac) to desaturate the layer. This converts the 'rain noise' layer to greyscale, resulting in less saturated colours overall. Add a layer mask to block out the foreground of the top layer, leaving the rain in the distance as shown.



Vertical rain

The effects of wind means that rain rarely tends to fall absolutely vertically. Therefore, avoid setting the Angle value to 90 degrees when creating this kind of effect.



The darkness

When it rains, it usually gets darker, so use Photoshop's built-in tools for amending brightness settings (Image > Adjustments > Brightness/Contrast) to darken the rainy area in the distance. Use gradients on the layer mask when appropriate to gradually fade this area into the original image.

Producing a grass texture

We can use the Add Noise filter to fake another organic effect, and create a freshly cut lawn



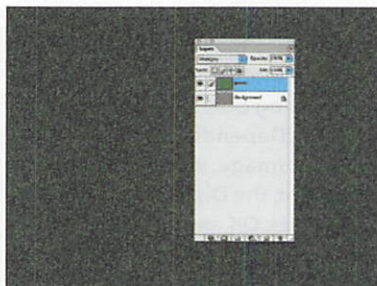
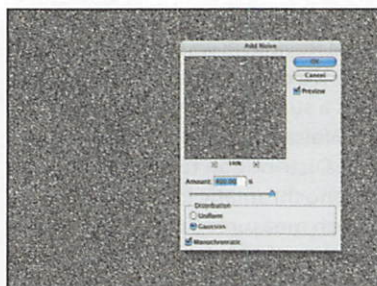
Longer grass

If you don't want your texture to resemble a well looked-after lawn, just run the Wind filter twice; this results in a final image in which the blades of grass appear longer. Running the filter again will create the effect of thicker grass.



Don't over-blur

The Gaussian Blur setting we used was precise, and it works very well for creating the grass effect shown. Don't use a value any higher than the one in the walkthrough, otherwise you'll end up with a very blurry grass effect.



1 Create a new document of any size. As in the previous exercise, go to Filter > Noise > Add Noise to bring up the Add Noise dialog box. In this case we want to begin with pure noise, so push the Amount slider as far to the right as it will go. Choose Gaussian for the Distribution, and ensure that Monochromatic is checked.

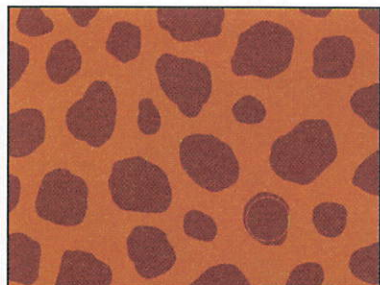
2 Blur this layer by going to Filter > Blur > Gaussian Blur and entering 0.8 for the Radius value. Next, add a new layer and fill it with green, then set the layer's blending mode to Multiply. This creates the effect shown, which resembles an overhead view of a grassy texture. Now flatten the image, using the option in the Layers palette menu.

3 If we used the transform tools or the Motion Blur filter to stretch this pattern it would result in grass with no obvious roots. We therefore fall back on the Wind filter (Filter > Stylize > Wind). Choose the default value for Method (Wind) and choose either option for Direction; both produce the same effect.

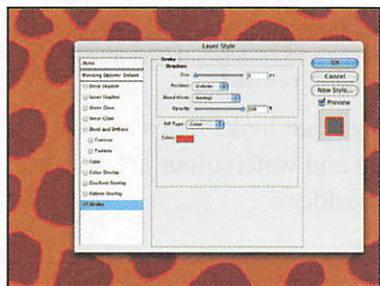
4 Once the filter has done its work the grass sits at 90 degrees, so use the Image > Rotate Canvas menu to rotate the canvas 90 degrees. You should end up with an effect like that shown here, which resembles a finely cut lawn. If your colours don't look right, go to Image > Adjustments > Levels to adjust them.

Faking fur with noise and blur

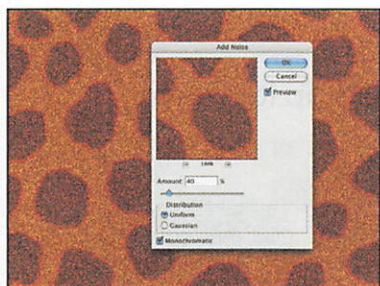
Fur goes in and out of fashion, but it's always easy to create using Photoshop filters



1 The first job is to create the underlying pattern for the kind of fur we're trying to simulate. Here, we've filled the Background layer with Pantone 730 C. A new layer is then created, on to which we paint spots using a large, fairly hard-edged brush; the colour used for the spots was Pantone 168 C.



2 If you look at the fur of any animal that has spots, the edges of the spots tend to have a rather more saturated colour. The simplest way to achieve such an effect in Photoshop is to use Layer Styles. Go to Layer > Layer Style > Stroke to bring up the dialog box shown. Choose a smallish size of a few pixels and a colour that's a more saturated, brighter version of the one used for the spots.



3 Add a two-pixel Gaussian Blur to the spots layer to soften the edges, then flatten the image. Now we start adding the texture that will provide us with the fur effect. Again, we're using the Add Noise filter, so go to Filter > Noise > Add Noise to bring up the now familiar dialog box. Choose 40% for the Amount and Uniform for the Distribution, and ensure that Monochromatic is checked.



4 The final step is to use the Motion Blur filter (Filter > Blur > Motion Blur) to create the fur's length. Here we've used a value of 15, but if you want longer or shorter fur you can amend this value. Finally, we added some lighting effects, by using the Lighting Effects filter (found under Filter > Render, and discussed in detail on page 84).



Incremental versions

In this walkthrough all of the filters are used in a destructive manner, and if you close and reopen the completed image there's no way of getting back to the plain pattern from step two. Therefore, save incrementally after each important step.



Don't overdo the noise

Take care when adding the noise in this tutorial. Overdoing it won't actually produce a more furry effect; it will instead create very odd halos around the various lines that make up the fur, and the result won't resemble anything organic, let alone fur.

The Grain and Film Grain filters

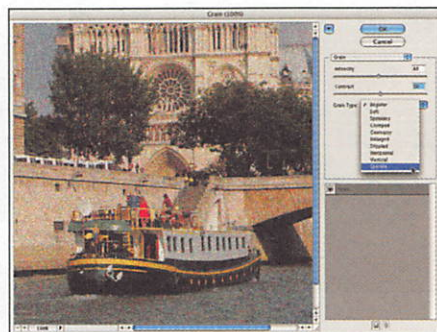
Apply natural grain to your images fast with this pair of native Photoshop filters



Combine filters

The Grain and Film Grain filters run within the Filter Gallery in Photoshop CS. This enables you to quickly experiment by combining them with the various artistic filters to create a multitude of effects.

The Grain filter (Filter > Texture > Grain) is one of Photoshop's hidden gems. Unlike the Add Noise filter, which is only able to produce a fairly typical film grain effect, the Grain filter has 10 varied presets offering virtually unlimited possibilities, due to the fact that you can define the intensity and contrast settings for each one. Although this filter is a great toy, it also has many practical uses. The effects are highly convincing, and in seconds you can age a photograph, simulate the effect of a detuned television, create



The Grain filter's Grain Type pop-up menu provides you with 10 different options, each of which can be tweaked

an image that looks like a piece of ink pen and watercolour art, and more besides.

THE FILM GRAIN FILTER

The Grain filter's little brother also has a few tricks up its sleeve

Like the Add Noise filter, the Film Grain filter (Filter > Artistic > Film Grain) can be used to add a natural grain effect to an image. The filter's dialog box has three settings that enable you to customise the effect. Grain has a value range from 0 to 20, and controls the amount of noise. At low values noise is restricted to dark areas, and as the value is increased the grain spreads to mid-tones. The Intensity value determines where the grain appears; at lower values it appears throughout, but at higher values it disappears from the image highlights. Finally, the Highlight Area setting increases the brightness, pushing the grain to the darker areas of the image.



With its settings at high values the filter creates a washed-out image, with coloured noise replacing dark colours

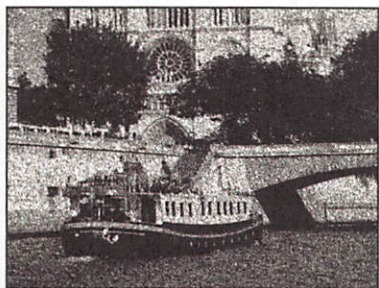
Applying grain effects

In addition to adding film grain to an image the Grain filter can create numerous artistic effects

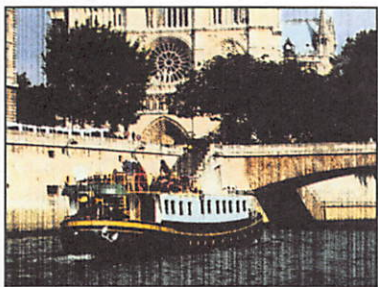
© 2004 AbsoluteVision www.absolutevision.com



1 Interesting effects can be achieved even if you just use the Regular grain type. Here, we've set Intensity to 10 and Contrast to 90, just shy of the maximum. The resulting image looks aged; its saturation has been decreased and the lighter areas look washed out, while many of the mid-tones are darker. With the addition of further noise, the image could resemble a still from an old film.



2 Here, we've set Grain Type to Stippled, Intensity to 60 and Contrast to 40. The result looks rather like an intricate ink pen drawing (hence, we suppose, the 'Stippled' name of this effect). This Grain Type works best with the values set near their mid points. At extremes, the image is either too light or too black.



3 Two Grain Type values give you the means to create vertical and horizontal line effects. Here, we've used the Vertical setting, with Intensity set to 25 and Contrast to 70. Dark and mid-tones have merged, and colours are simplified throughout. Again, the overall effect is to age the image, making it reminiscent of an old negative.



4 A rather cleaner effect is shown here, which is the result of selecting the Speckle option for Grain Type. The Intensity is set to 20 and the Contrast to 40, and the result looks rather like a watercolour which has had details drawn in with an ink pen. With some further work to soften some of the black lines this could pass for a natural media creation.



Tune out

Select the Enlarged option for Grain Type and set Intensity to 50 and Contrast to 20 for an effect that looks like a slightly detuned television picture.



Single options

Although some of the effects require the Intensity and Contrast settings to be balanced in order for them to work well, some produce interesting results when just one option is used. For instance, select the Horizontal Grain Type, set Intensity to 0 and Contrast to 50. This produces an intense image with plenty of dark shades, but doesn't compromise it with striped lines or grain.

Texture-oriented filters

Here's a quick look at seven filters that can be used to add texture or create relief



A better emboss

The Plaster filter provides an interesting emboss effect, but this can be further improved by overlaying a couple of filtered layers with identical settings, apart from the Light Direction, which should be varied. Set the top layer's blending mode to Soft Light to complete the effect.



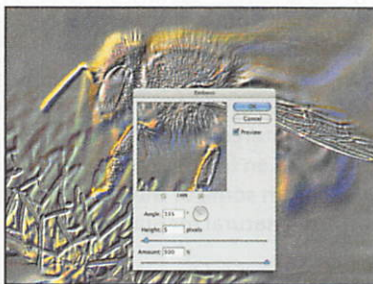
1 We've seen how you can create your own textures by using various noise filters, but Photoshop also has a number of built-in texture-oriented filters, most of which are highly configurable. These enable you to create highly stylised images with added depth and texture, and, by combining filters and using blending modes, you can create unique, organic surfaces in a matter of minutes.

2 The Bas Relief filter (Filter > Sketch > Bas Relief) uses the current background and foreground colours to render a relief of your image. Dark areas of the image take on the foreground colour and light areas take on the background colour; depending on the colours chosen the result can resemble carved stone or rendered metal. Detail and Smoothness options enable you to fine-tune the effect.



Enhancing detail

The Emboss filter can be used to bring out the textured detail in an image as an alternative to using something like Unsharp Mask. Create a duplicate of your image layer and select it. Use a low Height setting, and set the Angle to the same light direction as in the image. Set Amount to 500% and hit OK. Finally, set the filtered layer's blending mode to Overlay, and the Opacity to about 50%.



3 The Plaster filter (Filter > Sketch > Plaster) creates a subtle embossed effect, which is enhanced by directional lighting. Again, its colours are taken from the background and foreground colours; this filter works best with subtle variations on a single colour. There are settings for Smoothness, Light Direction and Image Balance, which controls the split between the foreground and background colours.

4 The Emboss filter (Filter > Stylize > Emboss) retains colour information from the original image. At low Height and Amount settings the relief is subtle and grey, but, if the Amount setting is upped to 500%, details and contrast are emphasised. With Height and Amount set to maximum values a striking effect appears; the image is pulled apart and new, highly saturated colours emerge.



5 The Craquelure filter (Filter > Texture > Craquelure) takes its name from the French term for surface cracking on paintings, although the effect it produces is rather different, resembling an image that's been painted on to crumbling plasterwork. Crack spacing, depth and brightness can all be tweaked, and changing any of the options alters the entire effect.



6 The Mosaic Tiles filter (Filter > Texture > Mosaic Tiles) resembles a grid-like version of the Craquelure filter, and enables you to overlay a pattern of rough-edged tiles on an image (except at low Tile Size settings, when the pattern resembles fragmented chips). The width and lightness of the grout can be defined, but you have no control over the level of irregularities in the grid pattern.



7 The Note Paper filter (Filter > Sketch > Note Paper) simulates an image created from two layers of coloured, textured paper. Like other Sketch filters, the effect is based on the foreground and background colours. Image Balance enables you to control whether one colour is dominant, while the Graininess and Relief options determine the amount of grain in the paper and the height of the relief.



8 The Plastic Wrap filter (Filter > Artistic > Plastic Wrap) is housed in the Artistic category, but it has more in common with texture-based filters. It produces an image that appears to be covered in plastic. If Detail is set low and Smoothness high the subject appears to be vacuum packed; if Detail is set to 1 and Smoothness to 2, the filter tends to produce scattered, contour-style lines.



Recognition factor

Many of the filters on these two pages are pretty extreme in their effects, and if used raw are unlikely to win you many fans. The effects are generally considered old hat by designers and illustrators, and look cheap and tacky to viewers in general. However, they can still be of some use for creating your own textures, or when used subtly as overlays.



Better note paper

The Note Paper filter tends to be more effective when used on very simple illustrations with few colours, so if you're applying it to a photographic image try simplifying the image first. One way is to convert it to Indexed Color (Image > Mode > Indexed Color) and set Dither to None and Colors to a single-figure value, and then convert it back to RGB. Another way is to make use of the Cutout filter, which is discussed on page 104.

The Patchwork filter

Weave intricate patterns on screen in seconds using this native Photoshop filter



Random relief

The Patchwork filter's Relief setting determines the maximum height of each of the squares, but the actual height of any one square is determined randomly; this means that you get a slightly different effect each time you run the filter.

The thought of patchwork quilts and other forms of stitching brings to mind images of keen-eyed grannies happily wiling away a rainy afternoon. It certainly doesn't make you think 'digital imagery', but, should the mood take you, the Patchwork filter could be just what you're looking for. The filter is surprisingly versatile, and is capable of producing some interesting effects, as you can see on the page opposite. The filter works through the Filter Gallery and has just two options for definable settings, although the



If both of the Patchwork filter's (Filter > Texture > Patchwork) settings are set to moderate values, the effect looks rather like this

various combinations of Square Size and Relief offer scope for creating radically different textures.

ADDING FURTHER TEXTURE

Combine the Patchwork filter and Texturizer for stronger imagery

While the Patchwork filter provides a realistic simulation of stitched patchwork, it's not without its limitations. The most noticeable issue is the flat areas of continuous tone that occur when using larger-sized squares, which result in a flat and unappealing image. A richness can be brought to the image by adding a second effect layer in the Filter Gallery stack and running the Texturizer filter. The default settings for the Sandstone texture work particularly well with the Patchwork filter, providing subtle areas of relief in the areas of continuous tone. However, don't overdo this, otherwise the texture will be more prominent than the patchwork pattern.



Combine a Sandstone texture with the Patchwork filter for a rich texture that the Patchwork filter alone can't create

Patchwork effects

Here are four distinct effects you can create by tweaking the Patchwork filter's settings



1 The Patchwork filter has two definable options: Square Size and Relief. The former determines the size of the patchwork texture's squares, and the latter defines the maximum height of the relief. However, even if both these settings are reduced to 0, the image is still affected. As shown, the image is brightened, and broken into tiny squares; the effect resembles highly intricate stitchwork.



2 To create this image Square Size has been set to 0, but Relief has been increased to about 15. The Relief option creates random highlights and shadows, but, because we've set Square Size to 0, the effect is a texture rather like the weave of a carpet, with the shadows running horizontally across the image.



3 In this image the settings are reversed, with the Relief value set to 0 and the Square Size value set to a high value (in this case 10, which is the maximum). The result of these settings is a flat, grid-like image, with each square being made up of flat colour. The colour of the squares is slightly offset from the grid, but this can be a useful effect for simplifying a picture in a stylish manner.



4 This image perhaps encapsulates what the Patchwork filter's creators were thinking of when they designed it. With both the Square Size and Relief values at their mid-point settings the image resembles a stitched patchwork of tiny squares of material. This is effectively the same as the flat grid image above, except that each of the squares is randomly raised or lowered.



Use blending modes

If you have a hankering for the 'good old days' of computing you can use the Patchwork filter to create the effect of an image digitised on an old 8-bit system, such as a ZX Spectrum. Duplicate your layer, and then run the Patchwork filter with the settings shown in step four of the walkthrough. Once this is done, change the layer blending mode of the filtered layer to Hard Mix.



Subtle settings

The Patchwork filter is one that it pays to experiment with, but you also need to be careful with your settings. Amending the Relief value by plus or minus two can often be enough to change the entire look of the image, especially when Square Size is set to 0.

The Texturizer filter

Use this if you want an effect more tactile than grain, but subtler than a preset texture filter



Less relief

Although the Relief value range stretches all the way up to 50 you'll rarely, if ever, need to use a high value. In fact, for most textures, any value over 10 tends to produce a texture that obscures the underlying image, leading to an unnatural and busy effect that's not visually pleasing.



Blending modes

The Texturizer filter is another of those that tends to work well with layer blending modes. Apply it to a duplicate of a layer and then set the blending mode to Overlay for a punchy, vibrant image in which the texture almost vanishes in light and dark areas.

The Texturizer filter (Filter > Texture > Texturizer) enables you to apply a texture to the surface of an image. It can be used to make an image appear more tactile, or to enhance the realism of your creation after using one of the artistic filters. The dialog box has four presets, two of which are useful for everyday work, and also gives you the option to load-in your own custom textures. Additionally, the relief of the applied texture can be amended, as can the light source, which can be set to one of eight directions. In the case



Some of the Texturizer filter's effects are better than others; the Brick texture shown here isn't the most useful of options

of the Canvas texture in particular, a change in the light direction makes a big difference to the resulting image.

THE TEXTURIZER DIALOG BOX

- ☐ **THE TEXTURE OPTION** provides you with four built-in presets: Brick, Burlap, Canvas and Sandstone. Additionally, the palette menu features a Load Texture option, enabling you to load your own custom textures.
- ☐ **SCALING DETERMINES** the size of the relief effect, with a value range from 50% to 100%.
- ☐ **RELIEF SETS** the height of the texture. The value range is from 0 to 50, with 0 having no effect on the image. As the value increases, so does the texture's contrast; by the time the value hits 50 all you can see is the relief pattern, rather than a texture applied to the image's surface.
- ☐ **LIGHT PROVIDES** eight options for the direction of the light source, while Invert changes your choice to the opposite direction, switching shadows and highlights around.

Using the Texturizer filter

Add physical qualities to your images with this filter's presets, or use your own textures



1 Here we've used the preset Burlap texture, with Scaling set to 100% and Relief set to 7. This creates a surface like a coarsely woven cloth, but, even at this relatively low relief setting, the texture already detracts from the image. This texture is best used with a low Relief setting, or on a duplicate layer with a layer blending mode. Also, the pattern is just a bit too regular for serious use.



2 The Canvas texture option is perhaps the most useful of the presets; it looks suitably realistic, and enables you to create a passable simulation of natural media quickly. For this image we set Relief to 7 and Light to Top Left, which tends to produce the best results for this texture. We've also applied the Watercolor filter, with all its settings at their minimum values for maximum image detail.



3 The Sandstone texture option is designed to simulate the surface of a sandstone wall, but it's just as suitable for emulating rough watercolour paper, as shown here. Again, the filter tends to work best with Top Left as the Light setting, and with a fairly low Relief value, otherwise the texture rather overwhelms the image.



4 One of the key elements of the Texturizer filter is the facility for loading custom textures. The palette menu provides access to the Load Texture option, which enables you to load any Photoshop (.psd) document. You can use a colour or black and white image, but it needs to contain plenty of contrast in order to produce an effective texture.



More presets

If you want a little more variation, but don't fancy creating your own custom texture files, Photoshop comes with a number of additional textures. After selecting Load Texture, navigate to your Photoshop folder, and then to Presets and Texture. Here you should find a number of ready-made texture files that you can use.



Older versions

If you're using an older version of Photoshop (pre version 7), and are wondering where those extra texture files are, they're stashed in the Goodies folder. There are a limited number, however, so it often pays to create your own; these will also be unique, rather than being available to thousands of other Photoshop users.

The Halftone Pattern filter

Create a simple two-colour pattern from any image by applying this filter to it



Abstract effects

The Halftone Pattern filter is another filter that's capable of creating abstract textures that can then be integrated into other images, particularly when the Contrast and Size settings are at or near their maximum values.

The Halftone Pattern filter (Filter > Sketch > Halftone Pattern) can be used to simulate printed ink dots. However, the filter is highly versatile, with three pattern types and the option to alter contrast as well as size. With careful use of this filter you can simulate a newspaper-style print dot effect, a stylised black and white print, and scanlines (see opposite). Like all Sketch filters, Halftone Pattern uses the Tool palette's foreground and background colours, applying the former to the image's darker areas



With low Size and medium Contrast settings, and with Pattern Type set to Dot, the Halftone Pattern filter produces an effect like zoomed newsprint

and the latter to the lighter tones; the chosen colours are mixed in the image's mid-tones.



Maximum impact

Although this filter can simulate a newspaper effect when the Contrast is at a moderate setting, the best results are achieved when Contrast is set to its maximum value of 50. At this point the image is reduced to two colours, and the halftone pattern becomes more prominent; this is great for imitating two-colour print effects.

THE HALFTONE PATTERN DIALOG BOX

- ☐ **THE SIZE SETTING** has a value range from 1 to 12, and determines the size of the pattern. As the value increases, the level of detail in the image is reduced.
- ☐ **THE CONTRAST SETTING** has a value range from 0 to 50. At 0 the contrast is minimal, and the colours are blended in the mid-tones. When the Contrast setting is increased the mid-tones begin to disappear, resulting in a simplified image.
- ☐ **PATTERN TYPE** offers three options. Circle is the strangest of the three, creating a pattern of concentric circles that emanate from the centre of the image; Dot overlays a pattern that at low Contrast settings resembles a black and white newspaper effect, and at high Contrast settings creates a solid black and white print effect; Line creates a pattern that's made up of horizontal lines.

Generating a scanline effect

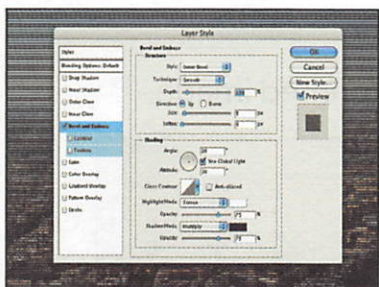
Combine the Halftone Pattern filter with layer effects to create an image with scanlines



1 Select an image for this walkthrough, open it and create a new layer. Press [D] to reset the foreground and background colours to black and white, and fill the new layer with white. Go to **Filter > Sketch > Halftone Pattern** to bring up the Halftone Pattern dialog box. Set **Size** to 2, **Contrast** to 50 and **Pattern Type** to **Line**. Click **OK** and the layer should be filled with eye-dazzling stripes.



2 The next thing we need to do is get rid of the white stripes, leaving just the black ones. Doing this is simple. Select the **Magic Wand Tool** and ensure that **Anti-aliased** and **Contiguous** aren't checked, and that **Tolerance** is set to 1. Click on any of the white stripes (it might be easier to zoom in first) and then press [Backspace] to delete them all.



3 The image now has a basic scanline effect, but it's a little harsh on the eyes, and it lacks depth. Go to **Layer > Layer Style > Bevel and Emboss** to bring up the Layer Style dialog box, as shown. Leave the default settings in place (**Technique**: Smooth; **Depth**: 100%; **Direction**: Up; **Size**: 5), and click **OK** to apply the effect.



4 The second step in merging the effect with the original image is to change the layer blending mode to **Overlay**. Alternatively, keeping the layer blending mode set to **Normal**, change the **Opacity** of the layer to about 50%. Both of these methods produce a different effect, so see which one works best for the image you're working with, or even combine the two.



Inverted lines

One of the side effects of creating the scanlines in this walkthrough is that the image is darkened (due to it being covered with opaque black stripes). You can always reverse this effect, and brighten the image by inverting the layer with the scanlines on it ([Ctrl]+[I] or [Command]+[I] on a Mac).



A quick pattern

Create a quick criss-cross pattern by duplicating the layer with the scanlines on it and rotating it by 90 degrees. With both layers either set to **Overlay** blending mode or having their **Opacity** setting reduced (or both), the resulting overlaid pattern has several levels of opacity.

The Color Halftone filter

Use this filter to produce the effect of printed ink dots, albeit on an exaggerated scale



Blending colours

Apply a Spectrum gradient to an image that's set to RGB mode, then run the Color Halftone filter in its default state. You'll end up with an image that uses graduated dots to blend the colours, instead of gradients. By setting all the Color Halftone filter's Screen Angles to 45, this effect can be made more regular.

The Color Halftone filter works in a similar way to the Halftone Pattern filter when the Dots pattern type is selected. However, instead of creating a two-colour effect, Color Halftone produces coloured dots. When working with a CMYK image the filter simulates a colour separation, although the dots are larger than you would see in print. The size of the dots is determined by the Max. Radius setting, which has a range from 4 to 127 pixels. The Screen Angles settings define the angle of the direction in which each

channel's colours move during the separation. By clicking Default, the dialog box sets these angles to 108, 162, 90, 45, but, as shown on the next page, experiment with these values and some interesting effects can be created. It's worth pointing out that this filter works with other colour modes, too, although when working in RGB, the dialog box's Channel 4 value is ignored (because there is no fourth channel in an RGB image); likewise, when working on a greyscale image, the Channel 1 value is the only one that matters.

AVOIDING PRINTING PROBLEMS

The Color Halftone filter can adversely affect a printed image

One of the main uses for the Color Halftone filter is to create a colour separation effect, which resembles the sort of thing seen on the printed page. Although this is an exaggerated effect – the dots are far bigger than those seen in print – it can still cause problems when an image to which this filter has been applied is printed out. When defining the filter's settings, take care not to use a Radius value that's too low; if you do, the image may pick up a moiré pattern when it's printed. This effect occurs when you try to print an image that already contains a printed dot pattern; the dots can mismatch, causing irregularities in the pattern.



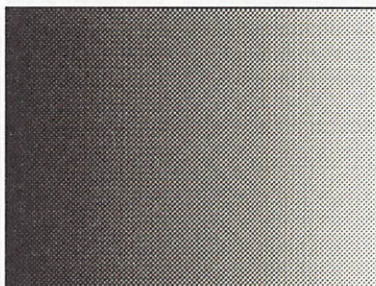
Set to its default values and applied to a CMYK image, the Color Halftone filter simulates a colour separation effect

Applications of Color Halftone

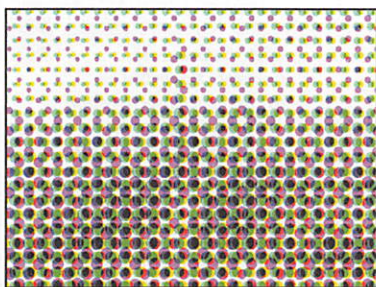
We've created four very different effects, ranging from printed ink dots to a highly abstract image



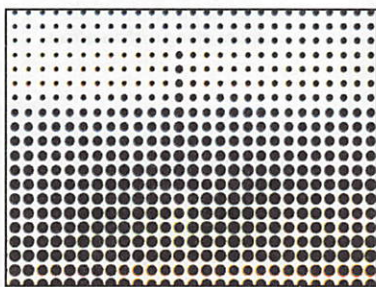
1 In addition to the oversized colour separation effect created on the previous page, the Color Halftone filter can also be used to simulate a black-and-white newspaper page viewed up close. Convert your image to greyscale (Image > Mode > Grayscale), then run the filter with Max. Radius set to 4 and every other value set to 45.



2 The filter is also useful for creating various textural effects, such as the graduated dots often seen in illustrations, or as shading in comic book art. Press [D] to select black and white as your foreground and background colours, draw a linear gradient, then run the filter with the same settings as in the previous example. For bigger dots, simply increase the Max. Radius setting.



3 This rather colourful abstract image actually began life as a photograph of the Eiffel Tower, as seen in example 1. The Color Halftone filter was applied with settings of 20 for the Radius and 0, 45, 90 and 180 for the Screen Angles. Note that the filter tends to work best on fairly high-resolution images; smaller images have too few pixels for interesting patterns to appear.



4 Here the Radius setting is increased to 40, and all the Screen Angle settings are set to 0. This results in the dots being aligned in a strict grid-like pattern. They're sized depending on the amount of colour information in each space, and each dot has a slight coloured halo surrounding it. This creates an interesting effect, if one that's slightly eye-boggling if you stare at it for too long.



Single channel application

For an interesting effect, open the Channels palette and select a single channel. Run the Color Halftone filter with the settings used in step 3 or step 4, then select the top channel to see the entire image again. You'll see that the image now resembles two almost monochrome images overlaid, with a number of abstract grid-like holes enabling you to see through the top layer to the layer underneath.



Additional emphasis

Use the Color Halftone filter on a selection of an illustration as a way of creating some differentiation between the foreground subject and the background. Use layer blending modes to make the effect subtler.

The Pattern Maker filter

Discover the quick way to create seamless tiled textures and patterns with this versatile filter



Remember to zoom

At the bottom-left of the dialog box is a percentage figure that shows how much the preview is zoomed in or out. Always remember to check how your pattern looks at 100 per cent before committing to it.

Once favoured by web designers, the tiled background pattern has, to some extent, fallen out of favour. However, there are still occasions where a tiled pattern is useful, for example as a tactile background for artwork or for developing textures for 3D models and computer games. Photoshop's Pattern Maker is found under the Filter menu, but like the Liquify and Extract tools, it's more of a small studio than a typical filter. Despite the number of options available the dialog box is quite simple to use,



This is the sort of thing you should try to avoid when creating patterns for computer games; the repetition in the pattern is all too obvious

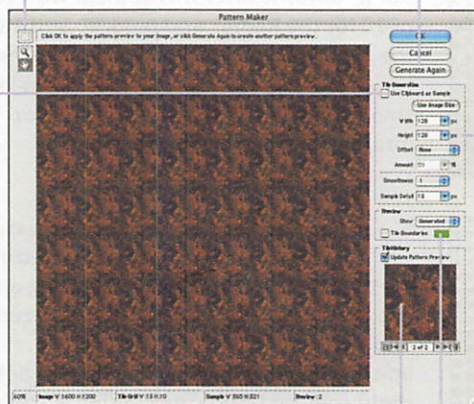
and, usefully, the nature of the filter means that unique results are created every time it's used.

THE PATTERN MAKER DIALOG BOX

The Rectangular Marquee Tool enables you to select an area of an image from which the pattern will be created.

The Use Clipboard as Sample option enables you to use a selection created outside the dialog box as the basis for the pattern.

Each pattern generated is stored in the Tile History section. You can use the icons to navigate the list, and to save or delete items.



Click the Generate/Generate Again button to create another iteration of the pattern, based on the settings defined in the dialog box.

The Tile Generation section enables you to adjust the size of the pattern the filter outputs, along with its offset.

The Preview area enables you to overlay a grid that highlights the tile boundaries, and toggle between the pattern and the original image.

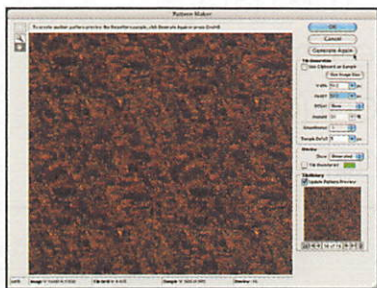
Making a texture

Use the Pattern Maker to create an organic texture from a photograph in seconds

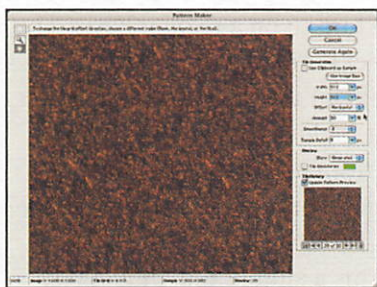
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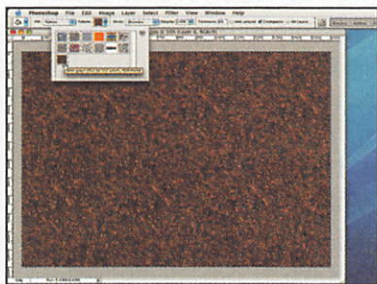
1 To begin, open up an image and go to **Filter > Pattern Maker**. Although you can use any image with this filter, photographs tend to give rich, tactile results (and, if you're after a realistic texture, a photograph is really the only starting point). Using the Rectangular Marquee Tool, select a portion of the image to use as the basis for the pattern, and click **Generate** to generate a pattern.



2 By adjusting the Smoothness option the smoothness level between each tile is modified; at 1, the edges aren't blended at all, but at 3 the image can become blurred, and lacking in texture. Sample Detail has a similar effect, creating smaller, more detailed tiles at higher values. Generally, a Smoothness setting of 1 or 2 works fine, while low-to-mid-range Sample Detail settings are best (below 10).



3 By changing further options in the dialog box, the resulting pattern again becomes very different. Larger Width and Height measurements provide more pixels for the pattern, thereby making the repetition less obvious. Clicking **Use Image Size** takes this to the extreme, using the entire canvas size as the basis for the effect. Offsetting the pattern also reduces grid-like effects.



4 Each time you click **Generate Again** a new, unique pattern is created. These are stored in the **Tile History** section of the dialog box, and you can use the controls to navigate them. By clicking the trash icon the selected pattern is deleted, and by clicking the disk icon it's saved, and becomes selectable for use with the **Fill** command's **Pattern Fill** option. Click **OK** to fill the selected layer with the pattern.



Seamless patterns

There's something of a knack to using this filter, most of which is down to the selection you initially make with the Rectangular Marquee Tool. Because patterns should be seamless, without obvious artifacts, your selection should be as free as possible from distinct objects and highly varied colours.



Better patterns

As we've said, a good pattern – at least for 3D and gaming textures – is one in which the pattern itself isn't particularly obvious. Although making the right selections in the Pattern Maker dialog box can assist with this, remember that you can always modify the pattern you create by cloning out unwanted areas with the **Clone Stamp Tool**.

Chapter 6

SMOOTH AND SIMPLIFY YOUR IMAGES

In this chapter...

- ☐ *Remove noise from your images*
- ☐ *Use the Median filter to blur and simplify work*
- ☐ *Discover preset shape-based simplification filters*

In this chapter we'll focus on the native Photoshop filters that enable you to smooth and simplify an image, to produce a less detailed version of the original

To a certain extent, the filters that we're going to look at in this chapter have much in common with those that we discussed in Chapter 2. However, although the blur tools do in effect simplify images, the tools featured in this chapter are generally more stylised, and can be used to produce a range of effects, from creating an image composed entirely of shapes through to emulating a mosaic or a stained glass window.

Back to basics

The first three filters that we're going to look at aren't quite so stylised, however, and are therefore

more likely to be the ones that you'll turn to on a regular basis. The Despeckle filter is almost the exact opposite of the Sharpen Edges filter, in that it blurs the entire image, apart from its edges (therefore reducing noise, which is its primary role). The Dust & Scratches filter performs a similar job, in that it's used to make imperfections in an image less obvious.

The Median filter is another filter that has many things in common with the blur filters, although, like the two filters we've just mentioned, it's located in the Noise category of the Filter menu. The Median filter is also primarily intended to reduce



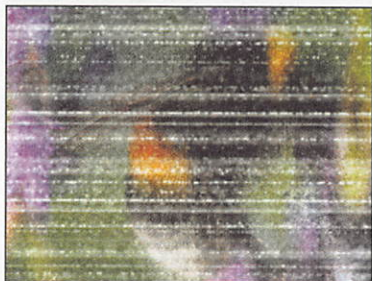
Page 72 Use two filters to remove imperfections from scanned images



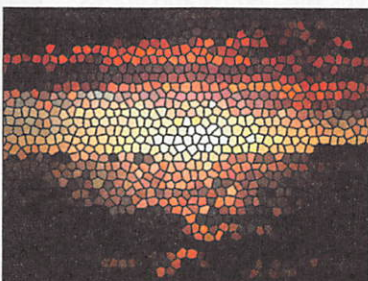
Page 73 See how the Median filter can be employed to improve your images



Page 74 Delve into the murky waters of the Filter menu's Other category



Page 75 Combine native filters to create the effect of poor television reception



Page 76 You can use filters to simplify your images by using shapes



Page 77 Create a cool text effect using a few Photoshop filters and commands

noise, but it can also be employed to create stylised abstract images.

Square dance

The Maximum and Minimum filters, although primarily intended to choke and spread various masked areas of an image, do have creative uses, too – at least to some extent. When used on a photographic image, the Maximum filter redraws the lighter areas as light, flat-coloured squares; conversely, the Minimum filter redraws the darker portions of an image as dark squares.

Elsewhere in this chapter we look at a group of filters that enable you to simplify an image by turning it

into a pattern of shapes. The Mosaic filter redraws your image as a regular grid of coloured squares, the size of which is determined by the setting you choose in the filter's dialog box. The Crystallize filter works in a similar fashion, but instead turns your image into a pattern of irregular shapes. The Stained Glass filter takes this effect a step further, augmenting the irregular shapes with a definable black outline, and including lighting effects. The result might not look a great deal like a real stained glass widow, but the effect can come in handy for creative purposes – such as creating a better mosaic than the Mosaic filter!

Removing imperfections

Two filters can be used to remove noise and other imperfections from your images



Removing moiré

Another method of eliminating moiré patterns is to tackle each individual colour channel in turn, applying varying amounts of Gaussian Blur, Median and Unsharp Mask. The blue channel is usually affected worst by moiré, and therefore requires the most blurring.

The Despeckle filter (Filter > Noise > Despeckle) is designed to remove noise from images. In practice, it's pretty much the polar opposite of the Sharpen Edges filter, in that it leaves the details and edges of an image alone, and just blurs the areas of flat colour and low contrast; this is because noise tends to be more noticeable in those areas.

Unfortunately, the level of blur that this filter applies can't be adjusted; it simply applies a preset amount, which is along the same lines as that applied by the Blur



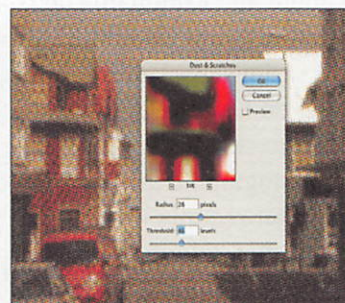
On the left is a compressed JPEG, and on the right the same image after the Despeckle filter was applied (both images are zoomed in)

More filter. However, it can still be useful for a quick repair job on a noisy image.

THE DUST & SCRATCHES FILTER

Remove stray hairs and specks of dirt from your scanned images

Also housed in the Filter menu's Noise category, this filter removes dust, scratches and other blemishes from scanned images. In its dialog box, Radius and Threshold are set to 0 by default. The Radius value is slowly increased until the defects disappear, whereupon the Threshold value is increased to just before the point at which the imperfections reappear. The filter works by deleting imperfections smaller than the Radius value, and interpolating between the pixels at the edges of the gaps that are left. The filter can also be useful for removing moiré effects, although it can slightly blur images, so you may need to add some noise to bring back the natural grain.

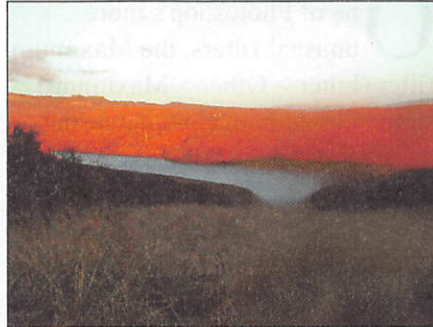


Here the Dust & Scratches filter is being used on an image to which the Color Halftone filter has been applied

Using the Median filter

This is commonly mistaken for a blur filter, but is capable of producing interesting effects

Found in the Noise category of the Filter menu, the Median filter is primarily intended for reducing noise levels in scanned images, which it does by averaging out colours that are too different from those found in the Radius value area. This is only the case at very low Radius values, however; as the Radius slider is pulled towards the right, thereby increasing the value, the image is massively simplified into soft, blurry shapes. However, unlike blur filters such as Gaussian Blur, which destroys edges, the Median



Here you can see how the Median filter, with a fairly high Radius value, affects an image; colours are averaged out, and almost all detail is lost

filter creates new ones, enabling you to sculpt abstract shapes by using it in tandem with other filters.



Add some noise

If you're using the Median filter on a portion of an image to reduce or remove a moiré pattern, that area may end up looking too clean and smooth compared with the rest of the image. Therefore, carefully add noise (which may need to be faded slightly) to bring back some of the natural grain.

HOW THE MEDIAN FILTER WORKS

- ❑ **RADIUS HAS** a range from 1 to 100. For each pixel within the selected area, the Median filter averages the colours of the pixels that fall around it within the area defined by the Radius value.
- ❑ **PIXELS THAT ARE** too different from the average colour within the Radius area are discarded entirely, because they might upset the average. This is how the filter is able to remove dust from scanned images.
- ❑ **THE AVERAGE** colour within the Radius area is then applied to the centre pixel in each case.
- ❑ **AT LOW RADIUS** values Median has a smoothing effect, which can help you to reduce moiré patterns and noise within an image.
- ❑ **AT HIGH RADIUS** values Median produces soft, abstract images that nonetheless can contain fairly distinct edges – at least if the original image had plenty of contrast.



Blur alternative

Despite us harping on that Median isn't a blur filter (because it isn't), the effect it creates can be used as an alternative to Gaussian Blur. For instance, Median can be handy for creating depth of field effects, or for knocking back a portion of an image to make another area more prominent.

Maximum and Minimum

Expand the light and dark areas of an image into surrounding pixels with this pair of filters



Working with masks

The Maximum filter can be used to reduce the size of a mask by choking the black areas, while uniformly spreading the white areas further around the edge of the selection. The Minimum filter has the reverse effect, spreading the black areas and choking the white, to enlarge the masked area. By using a low Radius value, you can use [Ctrl]+[F] ([Command]+[F] on a Mac) to gradually increment the effect.

One of Photoshop's more unusual filters, the Maximum filter (Filter > Other > Maximum) simplifies an image by increasing the size of the lighter areas. The sole definable setting is Radius, which determines the size of the effect. The filter works by redrawing the lighter areas of the image as coloured squares; the larger the Radius setting, the bigger these squares become, and the lighter the resulting image). At the lowest Radius value the effect of this filter is quite subtle, and by fading it to 50 per cent it can be used



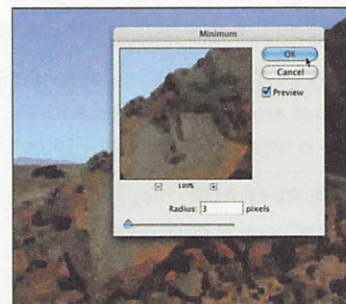
At its extreme settings, the Maximum filter creates an image that appears to be made up of dozens of brightly coloured squares

to accentuate highlights. At higher values, the image looks as if it's made up of layers of coloured squares.

THE MINIMUM FILTER

As you'd expect, this filter does the reverse of the Maximum filter

Also found in the Other category of the Filter menu, the Minimum filter does the opposite of the Maximum filter, increasing the size of the darker areas of an image. This results in an image that appears to be made up of layers of dark-coloured squares. Again, this filter can be used to subtly alter an image by running it with the minimum Radius setting and then fading the effect by 50 per cent. This results in an image in which the highlights are muted, but shadows and dark areas are more prominent. At higher settings, the filter tends to overwhelm the image, so it's not much use for general design and illustration work.



Even at a low Radius setting the Minimum filter has a pronounced effect on an image

Create a detuned TV effect

Combine noise effects and the Maximum filter to simulate a badly detuned television image

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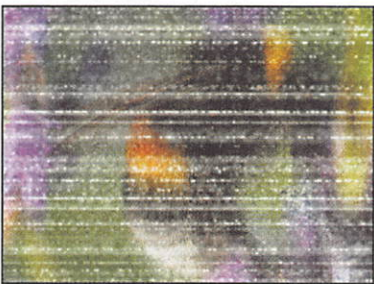
1 Create a new image with the dimensions of a television screen (such as 768x576 for PAL). Open 75.jpg from the CD and copy it on to a new layer. Resize the image to taste, but ensure that at least 40 pixels sit above and below the canvas edges, because we'll need this extra height in the next step.



2 Duplicate this later twice by twice pressing [Ctrl]+[J] ([Command]+[J] on a Mac) and set the Opacity value of both new layers to 40%. Use the Move Tool to move one of the new layers up 40 pixels and other down 40 pixels. Finally, apply the following Add Noise filter settings to each layer: Amount: 30%; Distribution: Uniform; Monochromatic: checked.



3 Create a new layer above the others and fill it with black. Go to Filter > Texture > Grain, set Intensity to 100, Contrast to 100, and select Horizontal for the Grain Type. This creates fragmented horizontal stripes; make these more obvious by going to Filter > Other > Maximum and setting Radius to 1. Soften the edges by applying a Gaussian Blur with Radius set to 1. Finally, set the layer blending mode to Screen.



4 To make the effect more severe, and to add depth to it, you can add further layers of static and alter various settings. Here we've added another level of static by creating a new layer and working through the previous step again. In this case the Radius value used for both the Maximum and Gaussian Blur filters was 2, and the layer's Opacity setting was reduced to 50%.



Noise annoys

For a more realistic effect you should probably use more noise and larger grain, but then the underlying image might be lost entirely.

What we've done here is create something that only vaguely resembles the real-world effect. However, in this case the effect is more suitable visually than something that's entirely authentic. For a reminder of how to work with noise and the various grain filters, refer back to Chapter 5.



Added movement

For more of a juddery movement effect in the image behind the static, create more layers in step one, reduce their Opacity values in the Layers palette and increase the vertical distance offset in step 2. You can also try moving the layers half-way up and half-way down the screen for a wrap-around effect.

Simplifying with shapes

Four Photoshop filters enable you to use shapes to remove detail from your images



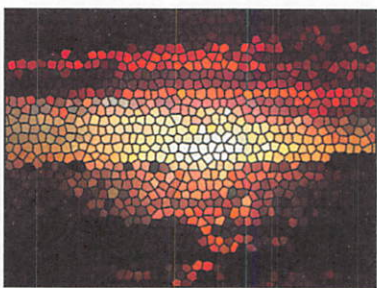
Better stained glass

The Stained Glass filter won't win any prizes for realism, but it can be improved in a couple of ways. Duplicate your image and apply the Median filter to the base layer, then apply the Stained Glass filter on the top layer. Reduce the top layer's Opacity setting to suit. Also bear in mind that the border colour for the Stained Glass filter can be customised by changing the default foreground colour in the Tools palette.



Working to extremes

The Mosaic and Crystallize filters tend to be used at moderate settings, but try experimenting with extreme Cell Size values. At the lowest settings an image appears to be slightly diffused; this effect can be used as an alternate method for defocusing a background. At the highest settings extreme abstraction occurs; the image bears no resemblance to the original, but the result can be used for a background, or as the basis for an art effect.



1 The Mosaic filter (Filter > Pixelate > Mosaic) simplifies an image by recreating it in flat-coloured squares. The sole definable setting is Cell Size, which ranges from 2 to 200. The squares take on the average colour of the pixels within their boundaries. The grid effect is subtle, and you can enhance it by overlaying a grid structure created using the Halftone Pattern filter and tweaking the layer's opacity.

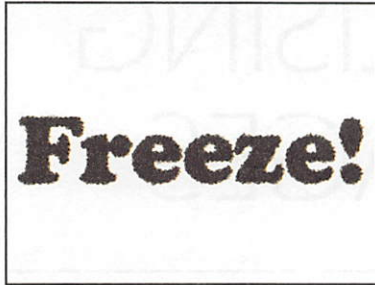
2 The Crystallize filter (Filter > Pixelate > Crystallize) also breaks up an image into a number of flat shapes, in this case differently shaped polygons. The Cell Size setting can vary from 3 to 300. Unfortunately, the Crystallize filter lacks a live preview, meaning that you have to rely on the dialog box's tiny preview window to see how the filter will affect your image.

3 The Facet filter (Filter > Pixelate > Facet) produces a fairly subtle effect. It groups small collections of pixels and flattens their colour. When applied to a photo, the image takes on a slightly painterly quality; the filter can be used prior to applying a painting filter to give a more realistic result. The effect can't be controlled, and, unusually, applying it more than once has little discernable effect.

4 Working in a similar fashion to the Crystallize filter, the Stained Glass filter (Filter > Texture > Stained Glass) breaks an image up into a number of irregular polygon shapes. In addition, it adds a border around the edge of each shape, the thickness of which can be defined in the dialog box. Light Intensity can also be set, to simulate more or less light coming through the 'glass'.

Creating a frozen text effect

Use the Crystallize and Median filters as part of the process for creating a 'cool' text effect



1 Create a new document, and press [D] to reset the default colours. Type some text using a large, bold font (we've used 160pt Cooper Black) and flatten the image. Use the Magic Wand to select the white background. Go to Filter > Pixelate > Crystallize, and set the Cell Size value to 5. Invert the selection and go to Filter > Noise > Add Noise. Set Amount to 50%, select Uniform and check Monochromatic.



2 With the same selection in place, go to Filter > Noise > Median and select 2 for the Radius value. Go to Image > Adjustments > Equalize and select the 'Equalize selected area only' option. Deselect the text, then invert the image by pressing [Ctrl]+[I] ([Command]+[I] on a Mac). This should leave you with mottled, largely white text on a black background, as shown here.



3 Rotate the image 90 degrees clockwise (Image > Rotate Canvas > 90° CW) and go to Filter > Stylize > Wind. Set Method to Wind and Direction to From the Right. Rotate the image back again (Image > Rotate Canvas > 90° CCW) and then go to Image > Adjustments > Hue/Saturation. Select Colorize, and set Hue to 210 and Saturation to 60 to turn the now icicle-laden text blue.



4 To add depth select the Magic Wand, ensure Anti-aliased is checked and set Tolerance to 20. Select the white areas of the image and press [Ctrl]+[J] ([Command]+[J]) to copy the selection to a new layer. Apply the Emboss filter with Angle set to 133, Height to 2 and Amount to 200%. Apply the Median filter with a Radius of 1, and set the layer's blending mode to Hard Light and Opacity to 50%.



Invert a selection

We didn't have space in the walkthrough to remind you of how to invert a selection, which you need to do in step 1. The keyboard shortcut is [Shift]+[Ctrl]+[I] ([Shift]+[Command]+[I] on a Mac), or you can go to Select > Inverse.



Experiment with values

The severity of the frozen ice effect can be adjusted by experimenting with the settings throughout the walkthrough. For edges that are more jagged, increase the Crystallize filter's Cell Size setting in step 1, and for longer icicles run the Wind filter twice in step 3.

Chapter 7

DISTORTING AND STYLISING YOUR IMAGES

In this chapter...

- ☐ Create clouds and textures with the Clouds and Difference Clouds filters
- ☐ Generate realistic lighting effects and glows
- ☐ Give images the 3D treatment
- ☐ Warp and distort an image in a number of different ways

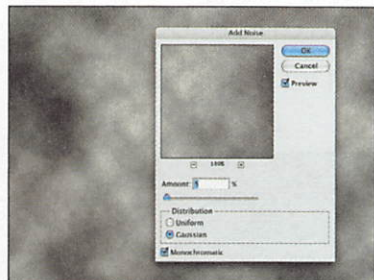
This chapter explores Photoshop's more extreme filters, which enable you to add realistic lighting, create 3D-style effects and warp images beyond all recognition

Even the most serious Photoshop user is very probably lying if they tell you that the distortion and special effects filters weren't the first ones they experimented with when they started working with the application. With all the extreme options available, mashing an image into an unrecognisable pulp has never been so easy, and like a kid in a candy store, it's very easy to overdo it with these filters until you become sick of them, after which time you'll start to explore those that have more practical applications. However, while many of the filters covered in this chapter are a little too esoteric for day-to-day use,

some of them are still essential components of Photoshop's toolset.

Head in the clouds

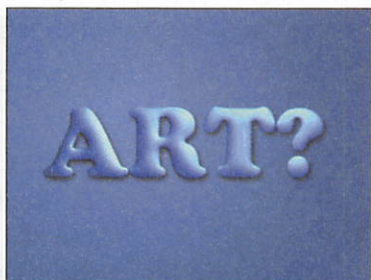
Clouds and Difference Clouds are two rather underused filters. Often dismissed as being unrealistic and uncontrollable, these filters are actually great tools of producing a foundation layer for organic textures, as you'll see on page 81). Because of the random nature of the filters, a slightly different result is created each time they're run. Of course, as their names suggest, these filters are also suitable for fashioning digital clouds, although the process is a little more involved than just



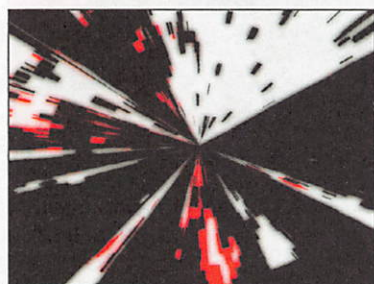
Page 81 Create organic textures with the Clouds and Lighting Effects filters



Page 82 You can greatly improve on Photoshop's preset cloud effects



Page 86 Add depth and texture to text using the Lighting Effects filter



Page 96 Discover some practical uses for the Polar Coordinates filter



Page 99 Warp and distort your images with Photoshop's wonderful Liquify filter



Page 101 Create your own heavenly body with the aid of a few filters

selecting one of the filters from the Filter menu; we'll show you a method that produces a more realistic effect on page 82.

Elsewhere, the filters that perhaps hold the most fascination are those that enable you to warp and distort your images. A number of presets are available, each of which offers a specific type of distortion; Zigzag, Wave, Twirl, Pinch and Spherize all do pretty much what it says on the tin. For those with a more gleeful attitude to mangling their images, Photoshop offers the Liquify filter. Virtually an application in its own right, it provides almost unlimited scope for distortions by effectively

collecting the other distortion filters together into a single interface, and then providing additional tools for masking and applying meshes.

Light work

The lighting-oriented tools are also useful for general work. Although some of the presets are a little iffy, the Lighting Effects filter is extremely flexible, enabling you to create anything from spotlight effects to subtle highlighting. Elsewhere, a number of glow and trace effects are on offer, and although these do a less good job of enhancing an image's realism, they can be suitable for crafting stylised effects.

The cloud filters

Create a random, cloud-like pattern that can be used as the basis for textures and special effects



Fire in the sky

To create a fire effect, add a radial gradient on a new layer (white centre to black edges). On a second layer apply the Clouds filter and then the Difference Clouds filter. Go to Image > Adjustments > Hue/Saturation and enter 30 for Hue, 35 for Saturation and 20 for Lightness. Finally, set the cloud layer's blending mode to Color Dodge.

The Clouds filter (Filter > Render > Clouds) is another of those that new Photoshop users tend to be in awe of, and, although veteran users often tire of it, the filter is still a useful one. By default, the Clouds filter creates a kind of random haze, the colours of which are based on the foreground and background colours in the Tools palette. If a combination of sky blue and white is used, the result is an almost passable imitation of real clouds (an effect that can be improved with a little work, as we'll see). If black and white



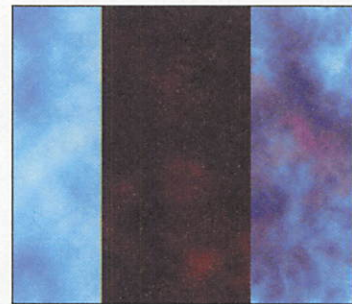
The Cloud filter can produce stunning effects with minimal input. Here, a linear gradient has been overlaid, and a Difference blending mode applied

are chosen contrast is maximised, and the results can be used as the foundation for texture creation.

DIFFERENCE CLOUDS

Why, you may ask, is there another version of the Clouds filter?

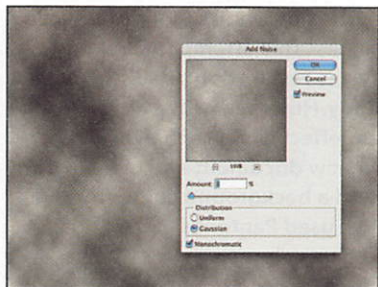
The Difference Clouds filter (Filter > Render > Difference Clouds) is something of an anomaly. It's a combination of a filter and a blending mode – what you'd expect to get by applying the Clouds filter to a new layer, then setting the blending mode to Difference. This enables you to rapidly produce cumulative effects. If you apply the Clouds filter with sky-like colours, then apply the Difference Clouds filter, the result is a black background with orange clouds. Apply Difference Clouds again, and you'll be back where you started, but with a stronger pattern and stronger colours. Continual application leads to new colours being introduced.



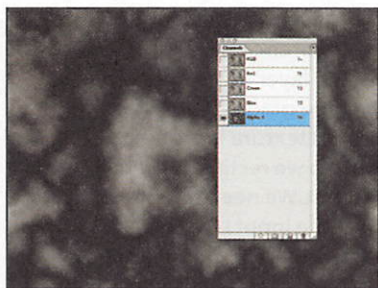
Here are the results of the Cloud filter, Difference Clouds applied once, and Difference Clouds applied eight times

Creating cloud textures

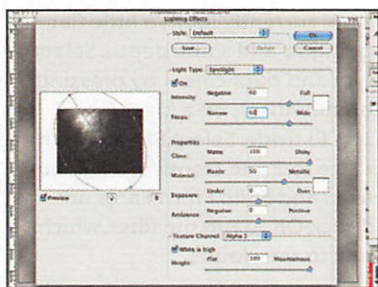
You can use the Clouds and Difference Clouds filters to create an organic, rocky texture



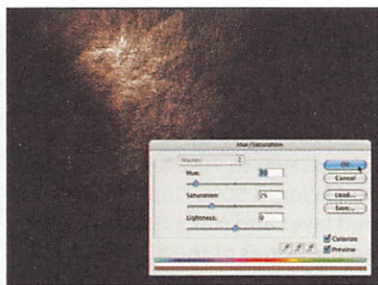
1 The Clouds and Difference Clouds filters tend to be associated with fluffy, hazy textures. However, by combining them with other filters they can be used to create hard, rock-like effects. We're going to create an effect similar to light being shone on the wall of a cave. First, create a new document and run the Clouds filter. Then go to Filter > Noise > Add Noise, and use the settings shown.



2 Open the Channels palette and use the drop-down menu to add a new channel. Select this channel and run the Difference Clouds filter. Add some noise, as in step one, and continue to run the Difference Clouds filter until the image has a good balance of tones, as in the screenshot here.



3 In the Layers palette, select your original layer and go to Filter > Render > Lighting Effects to bring up the dialog box. The ins and outs of this filter are explained on page 84, so we won't cover them here. Set Light Type to Spotlight, and use the Preview area to make it shine from the top-left. Set intensity and Focus to 70, Gloss to 100, Material to 50, Exposure and Ambiance to 0 and Height to 100.



4 Click OK and the noise and clouds created earlier will be turned into a rich, textured image, complete with lighting effects accentuating every nook and cranny. To add some colour, go to Image > Adjustments > Hue/Saturation, check the Colorize box, and set the Hue, Saturation and Lightness to 35, 20 and 0 respectively.



A harder edge

Try not adding any noise when using the Difference

Clouds filter on the additional channel that's created in step two. If you leave the clouds as they are, but work through the rest of the tutorial as outlined above, the resulting texture is very different; the 'wall' is smoother, but has a much stronger relief.



Extra texture

Use the Dodge, Burn and Saturate tools to edit and build the texture of the rock face. With subtle use of these tools you can sculpt new levels. Alternatively, create a new layer, set it to Color Burn, and draw on it with an airbrush set to a low Flow rate.

Creating realistic clouds

Improve on the effect produced by Photoshop's native Clouds filter in four simple steps



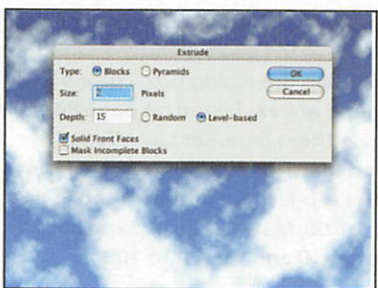
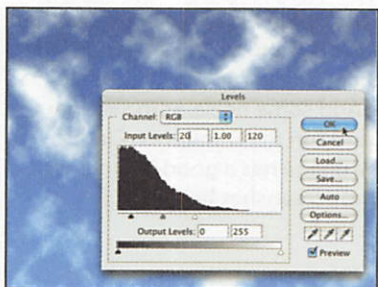
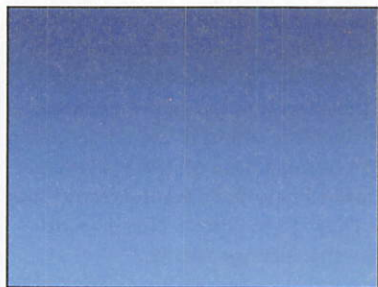
Different clouds

The Clouds and Difference Clouds filters produce a fairly random haze pattern, which is suitable for creating a cloudy sky, but the specific pattern created may not be to your taste. If this is the case, simply delete the results and run the filters again until you have the basis for a sky that you're happy to use.



A rainy day

Are little fluffy clouds a bit too cheerful for the image you're creating? For the sort of clouds you see before it starts raining, change the extruded cloud layer's blending mode to Exclusion. By changing the original cloud layer's blending mode in this way instead, you end up with a more cheerful effect that resembles the glowing orange clouds you sometimes see late at night.



1 Although Photoshop's Clouds filter can make a passable attempt at creating a realistic sky, the results don't really hold up to close scrutiny. However, with a little extra work, a decent effect can be achieved. To start, create a new document and use a linear gradient to add a background colour for the sky. Here we've used Pantones 653 C and 284 C for the two blue colours.

2 On a new layer, run the Clouds filter, then run the Difference Clouds filter three times, and set the layer's blending mode to Screen, so the blue gradient shows through. The current cloud texture lacks contrast and is too continuous, so we rectify this with a Levels image adjustment. We need to remove the extremes, so set the Input Levels to 20, 1.00 and 120; this creates separate, cloud-like shapes.

3 The image currently looks a little flat, so we're going to add some depth. Select the clouds layer and duplicate it by pressing [Ctrl]+[J] ([Command]+[J] on a Mac). Go to Filter > Stylize > Extrude. Select Blocks for the Type and set Size to 2 and Depth to 15. Ensure that Level-based and Solid Front Faces are checked, and click OK to run the filter, which adds some bulk to the clouds.

4 The image is too bright, so we need to reduce the Opacity of each cloud layer. Also, the clouds' fluffy edges have become lost due to the use of the Extrude filter. To cure both problems, reduce the Opacity value of the original cloud layer to 70% and that of the extruded cloud layer to 50%. Finally, select the extruded cloud layer and run a Gaussian Blur filter to soften the edges of the 3D effect.

The Lens Flare filter

This filter adds spotlights and halos to images, simulating the look of refracted sunlight

The Lens Flare filter simulates the effect that's produced when sunlight bounces off a camera lens. Photographers work hard to avoid this kind of effect in their photos, but Photoshop enables you to add it nonetheless. While it's an effect that should definitely be used sparingly, it can add atmosphere to landscape images, and enhance lighting on reflective surfaces. One negative aspect of this filter is that it's pretty destructive; however, you can use it without affecting your original image. Simply apply it to a new



Annoy photographers everywhere by adding to images the lens flares that they've worked so hard to avoid

layer filled with black, then set the layer blending mode to Screen, or Linear Dodge for a stronger effect.



Greyscale lens flares

The Lens Flare filter doesn't work with greyscale images. Therefore, to add this effect to such an image, you have to convert it to RGB (Image > Mode > RGB Color), run the filter, and then convert it back (Image > Mode > Grayscale).

THE LENS FLARE DIALOG BOX

- ☐ **BRIGHTNESS** determines the size of the lens flare centre, which can be moved by dragging it around the Flare Center preview area. The Brightness value can vary from 10% to 300%; values of about 100% tend to work best.
- ☐ **LENS TYPE** enables you to choose from a number of different lenses.
- ☐ **50-300MM ZOOM** and 35mm Prime create a small bright spot inside a coloured circle, with further circles of light emanating from the centre of the light source. The former produces more circles, which are orange-tinged, while the latter creates fewer circles, but ones that are stronger and have a greenish tinge. 105mm Prime creates a larger but less defined spotlight, with a blueish hue.
- ☐ **MOVIE PRIME** creates a strong, red spotlight and blue lines at 90 and -45 degrees, simulating the effect seen on some movie company logos.



Extra precision

[Alt]-click ([Option]-click on a Mac) the Flare Center preview area to access the Precise Flare Center dialog box, enabling you to input the exact pixel coordinates that you require for your lens flare's centre point.

The Lighting Effects filter

Create all manner of lighting effects and raised surface textures with this highly versatile filter



A better emboss

Although Photoshop has an Emboss filter (Filter > Stylize > Emboss), and also includes emboss effects within the Layer Style dialog box, the Lighting Effects filter produces a superior effect. Unlike the Emboss filter, using Lighting Effects results in a colour image, and, unlike if you use layer styles, Lighting Effects provides total control over lighting direction, including the facility to work with multiple light sources.

The Lighting Effects filter (Filter > Render > Lighting Effects) is one of Photoshop's most versatile, enabling you to produce all manner of directional and elliptical lighting, and also create surface textures based on alpha channels. The dialog box is fairly complex, but you can experiment with the filter right away by means of the presets housed in the Style pop-up menu.

When you do start editing settings, there's plenty of choice. Any light's intensity, focus and colour can be amended. The surface's material can

be set to Matte to make it dull, Shiny to make it glossy, Plastic to reflect the colour of the light or Metallic to reflect the colour of the object itself. The Exposure setting enables you to edit the overall brightness of multiple lights (as opposed to Intensity, which controls only the currently selected light), and Ambience enables you to add ambient light – diffused light that affects all surfaces on an even basis. When this value is negative, the ambient light colour is the opposite of the selection in the swatch.

THE LIGHTING EFFECTS DIALOG BOX

Drag the handles and focus point in the Preview area to change the light's beam or footprint. For directional lights, a line leads from the focus point to the hotspot.

Below the Preview area are two icons; drag from the light bulb icon to the Preview area to add a new light, and from the Preview area to the trash icon to delete a light.

The Texture Channel area enables you to use a colour channel or alpha channel as a texture map, and set the height of the subsequent emboss-like effect.



The Style menu houses a number of preset lighting effects, and nearby buttons enable you to save and delete menu items.

The Light Type section determines the type of lighting being used, along with its intensity, focus and colour.

The Properties section determines the properties of the surface's material, the exposure of the lighting and the level of ambient lighting.

Using the Lighting Effects filter

Here are a few effects that you can create by tweaking some of the filter's presets

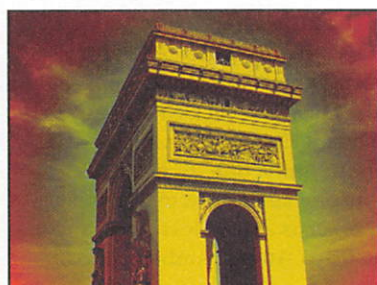
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1 Although it's perfectly feasible to create your own lighting effects from scratch, it's easier to start with one of the filter's presets; by changing a few settings you can create a huge variety of effects quickly. Here we've selected 2 O'clock Spotlight from the Style menu. Because this setting by default leaves plenty of the image in the shade, we dragged the handles outside the image boundaries.



2 Although this image looks very different, it's again produced using the 2 O'clock Spotlight setting. Again, the handles were dragged to ensure the light circle was outside the canvas boundaries. Red was chosen from the Texture Channel menu and Height set to 100. The effect was completed with these settings: Intensity: 59; Focus: -100; Gloss: -100; Material: -100; Exposure: 0; Ambience: 0.



3 Radical coloured effects can be created with the filter; the Blue Omni option forms the basis of this effect. One of the handles was [Shift]-dragged until the light footprint was as large as it would go. The colour square next to the Intensity slider was clicked, and orange selected. Ambience was set to 50. We then went to Edit > Fade and set Mode to Color Burn and reduced Opacity to 60%.



4 This subtle effect draws attention to the image by slightly bleaching its front, but also by emphasising the details. Here, Soft Omni was the starting point, and the handles were dragged so the edges of the light footprint were just within the canvas boundaries. We set Intensity to 50, Gloss to 0, Material to 100, Exposure to 30 and Ambience to -50. We chose Red for Texture Channel, and set Height to 1.



Texture channels

In steps 2 and 4 we use the Texture Channel option to harness the filter's ability to create a surface texture. In step 4, the low Height value has an effect similar to sharpening the image, whereas the higher value in step 2 even manages to create textures out of the clouds. Although we used one of the colour channels in each case, you can form a texture from an alpha channel, making possible the creation of 3D effects.



Trial and error

The Lighting Effects filter doesn't offer a live preview of the image you're working with, and you must instead rely on the tiny preview window. Unfortunately, this doesn't provide a great indication of how the final result will look, so trial and error is often the way forward. If you discover an effect you're particularly pleased with don't forget to save it, using the Save button in the Style area of the dialog box.

Creating a 3D plastic text effect

Turn some text into reflective, tactile-looking plastic with the help of the Lighting Effects filter



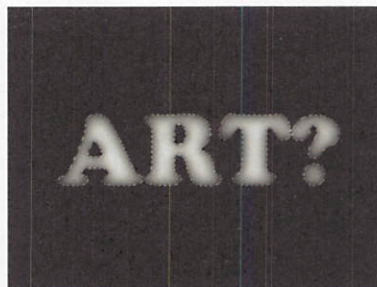
Multiple blurs

In step 2, we told you to apply the Gaussian Blur filter four times. You may be wondering why we didn't just use a single value for this and apply it once. The reason is that when you use multiple applications of Gaussian Blur the final effect is usually much smoother than what you would get from just a single application of the filter.



Why delete?

Also in step 2, we say to invert the selection and hit delete at the end of the step. This is because if you don't do this, the edges of the text end up pixelated, which is certainly not in keeping with the smooth plastic effect we're trying to achieve.



1 Type some big, chunky text on to a new layer (here, we're using 160pt Cooper Black) and colour it blue. On a layer behind the text, add a radial gradient in two colours that are slightly darker than the text. [Ctrl]-click ([Command]-click on a Mac) the text layer in the Layers palette to load it as a selection, then go to the Channels palette, and use the menu to select New Channel.

2 In the New Channel dialog box, select Masked Areas and click OK. Press [D] to reset the default colours, then [Alt]+[Backspace] ([Option]+[Backspace]) to fill the selection with white. Go to Filter > Blur > Gaussian Blur, choose 10 for Radius and click OK. Repeat this three times, with Radius settings of 7.5, 5 and 2.5. Hit [Shift]+[Ctrl]+[I] ([Shift]+[Command]+[I]) to invert the selection and then hit [Backspace].

3 Select the RGB layer in the Channels palette, then go to Filter > Render > Lighting Effects (when Photoshop warns about rasterising the layer, just click OK). Use the Spotlight to create lighting as explained on page 84. Choose Alpha one from the Texture Channel menu and set Height to 20. Finally, set Intensity to 26, Focus to 69, Gloss to 80, Material to -80, Exposure to -10 and Ambience to 8.

4 Go to Layer > Layer Style > Drop Shadow and set Opacity to 50, Angle to 30, Distance to 5 and Size to 10. Go to Filter > Artistic > Plastic Wrap and set Highlight Strength to 5, Detail to 15 and Smoothness to 8. Finally, go to Image > Adjustments > Hue/Saturation and edit the Saturation level to boost the colours of the lettering (between 50 and 70 should be sufficient).

Glow and colour correction

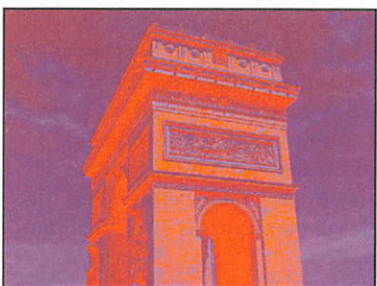
Several native Photoshop filters can be used to create stylish glows and funky colour effects



1 Because there are so many native Photoshop filters for applying special effects and distortions, we simply don't have room to work through them all in depth. Therefore, over the next four pages, we'll briefly explore 15 filters, demonstrating how each affects the image shown here, thereby providing you with a quick reference guide.



2 The Diffuse Glow filter simulates the effect of camera lens filters. The glow colour is taken from the default background colour; when white is used the image is soft and grainy, with increased light, but detail is retained. Graininess, Glow Amount and Clear Amount affect the evident grain, the amount of the image the glow covers, and how much of the image shows through the glow.



3 The Neon Glow filter transforms an image into a glowing three-colour picture. The foreground and background colours are used for mid-tones and shadows, and a definable glow colour is used for highlights. As the Glow Brightness is increased, the glow gets brighter and tighter. When Glow Size is negative, the image inverts; at zero, lighter areas are filled in the glow colour within a hard-edged selection.



4 To some extent the Solarize filter produces a similar effect to the Neon Glow filter, although it's rarely as useful, because there are no settings to define. Like Neon Glow, the Solarize filter massively affects an image's colours, inverting all of them apart from black, which remains as it is.



More impact

For additional impact when using the Diffuse Glow filter, increase the saturation of the image prior to applying the filter (press [Ctrl]+[U], or [Command]+[U] on a Mac, and then type 50 in the Saturation field). Also, don't let the filter take over the image; use a Glow Amount of 5 and a Clear Amount of 15, with Graininess set at between 5 and 10, to create an effect akin to that of a soft diffusion lens.



A poster effect

Press [D] to revert the foreground and background colours to black and white, then apply the Neon Glow filter. Choose yellow for the Glow Color, set Glow Size to 0 and Glow Brightness to 25, restricting the colour to the image's highlights. Click OK and then press [Control]+[J] ([Command]+[J] on Mac) to duplicate the layer. Set the blending mode to Linear Light for a striking screen-print poster-style effect.

Filters that affect edges

Several filters enable you to distort, accentuate or trace around the edges in an image



A painterly mosaic

Use the **Glowing Edges** filter to create an effect that looks like a cross between a **Pointillist** painting and a tile mosaic. Set **Smoothness** to 1 to ensure that all the details are picked up, and **Edge Brightness** to 6. The **Edge Width** setting depends on the size of the image (for a 1600x1000 pixel image, set it to 6). Run this filter twice, invert the image and apply a one-pixel **Gaussian Blur**.



Neon effects

Although the **Neon Glow** filter doesn't produce anything like a neon lighting effect, you can create an approximation with the **Glowing Edges** filter by setting **Edge Width** to 5, **Edge Brightness** to 12 and **Smoothness** to 8. Duplicate an image, filter the copy, and carefully use a layer mask and the **Soft Light** blending mode to selectively apply the effect to images, such as photos of buildings to which you'd like to add a hint of tackiness.



1 The **Diffuse** filter diffuses coloured areas in an image, thereby smoothing them out – an effect that's most obvious at edges where colours contrast. Although not a spectacular effect, it can be useful for texture creation. For instance, apply it in **Lighten Only** mode over a repeating blue/black one-pixel halftone pattern, then reduce the image size for an effect that resembles denim.

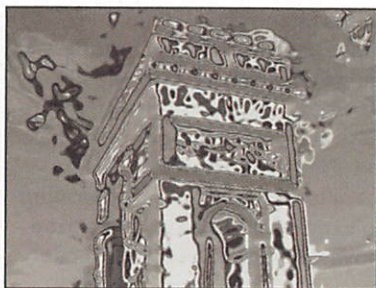
2 The **Find Edges** filter tends to work well on images with plenty of detail. Edges within the image are converted to the average colour at the edge point, and high-contrast edges are rendered thicker than low-contrast ones. Although a one-shot filter with no definable settings, it can produce interesting effects when the filtered layer is set to **Multiply** or **Overlay** and blended with the original.

3 A variation on the above filter, **Glowing Edges** takes things a step further. In addition to inverting the colours the filter has a dialog box, in which you can set **Edge Width**, **Edge Brightness** and **Smoothness**. The last of these settings is important, as it provides you with the means of defining the amount of detail that remains after the filter has been applied.

4 The **Trace Contour** filter works in a different way to other edge filters. You choose a **Level** in the dialog box against which colour values are evaluated, and the filter draws a single-pixel line wherever a colour lighter than your chosen value meets a colour that's darker than the value. This results in thin, contour-style lines, limited to the areas around the defined level selection.

Creating 3D effects

Several Photoshop filters can be employed to make your images leap off the page

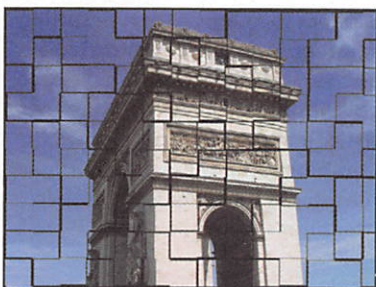


1 The Chrome filter (Sketch > Chrome) gives any image it's applied to the appearance of liquid metal. The filter produces a greyscale image in which light areas of the original are raised, and dark areas are the low points of the 3D effect. Detail and Smoothness can be defined and, as you might expect, the filter works best with high-contrast images.



Coloured chrome

The Chrome filter removes all colours from an image, resulting in a greyscale effect. Bring back the colour by applying the filter to a duplicate layer, and then set the filtered layer's blending mode to Linear Light.



2 The Tiles filter (Stylize > Tiles) breaks an image up into a number of randomly spaced square tiles. You can specify how many tiles to place across the image, define the maximum distance any tile can move, and specify whether gaps between the tiles should be filled with the foreground colour, background colour, an inverse of the image or the original image.



3 The Extrude filter (Stylize > Extrude) breaks an image into a number of tiles and then pushes the image outwards from the centre point. Settings enable you to define the width of the tiles, whether blocks or pyramids are extruded and whether the Depth setting is random or based on brightness values. The effect is usually a favourite with Photoshop beginners, but it's not especially useful.



Creating a grid

Although it's one of those filters that doesn't appear to be particularly useful, the Tiles filter can be used to rapidly create a grid. Press [D] to reset the default colours, then run the filter with a Maximum Offset setting of 1 and Fill Empty Area With set to Foreground Color. The layer's blending mode can then be set to Multiply, or the Magic Wand used to delete the white squares, leaving just the black gridlines.



4 We've shoe-horned the Fragment filter (Pixelate > Fragment) into this page, even though it doesn't really create depth in an image in the same way that the other filters do. This filter duplicates the image four times in a square formation, and lowers the opacity setting of each copy; the result is something akin to an earthquake vibration effect. Other than for creating textures, it's not much use.

Creating glass and water effects

Use these filters to simulate anything from the subtle ripples of a pond to a rough sea

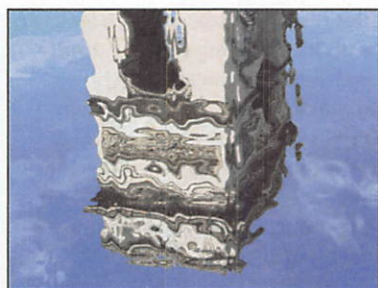


Blur for realism

When using these filters to create the effect of looking through glass, or the reflection of an object in water, bear in mind the distance of the subject from the glass or water. In some cases, the image's realism can be enhanced by applying a Gaussian Blur prior to one of the filters featured on this page.



1 The Glass filter has five definable settings. Distortion and Smoothness both determine how much the underlying image is distorted by the glass effect; texture enables you to apply one of four preset glass types (Blocks, Canvas, Frosted or Tiny Lens – shown here) or load one of your own; scaling enables you to adjust the size of the texture tiles, while Invert reverses the light direction.



2 If you select the Canvas texture setting and moderate values for Distortion and Smoothness, the Glass filter creates an effect more akin to a liquid's surface – and one that's no less realistic than the two ripple filters below. Try combining the Glass filter and Ocean Ripple filter in the Filter Gallery, with both the latter filter's values set to 9.

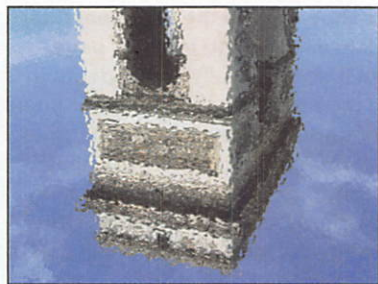


Material from glass

Glass isn't generally known for its cloth-like qualities, but you can create an approximation of print on a cloth surface using the Glass filter. Set Distortion to 20 and Smoothness to 1, choose Canvas from the Texture pop-up menu and set Scaling to 100%. In the Filter Gallery, add the Texturizer filter with Texture set to Canvas, Scaling at 100%, Relief set to 4 and Light to Top Left; the resulting image will resemble a very old and faded oil painting.



3 The Ripple filter (Filter > Distort > Ripple) creates the effect of long ripples travelling across a pond's surface. The Size setting determines the height of the ripples and the Amount slider controls the severity of the distortion. Best results are obtained with Size settings of Medium or Large, and with Amount set to around 100 per cent.



4 Similar to the Ripple filter, Ocean Ripple displaces pixels to create an effect resembling the surface of a body of water. Ripple Size and Ripple Magnitude can be set to control the level of the effect, although even at maximum settings this filter provides less scope for distortion than Ripple. The best results seem to occur when the two settings are at their respective mid-point values.

The Wave filter

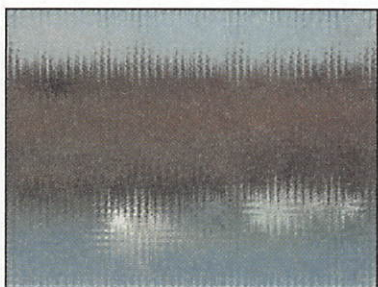
If you're after extreme distortion effects, look no further than this versatile filter



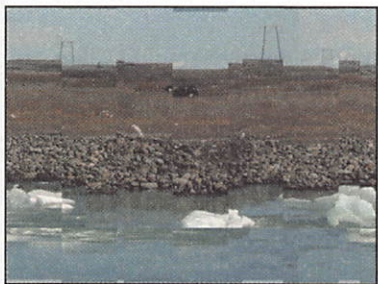
1 The Wave filter, found in the Filter menu's Distort category, is a highly capable and powerful distortion filter that creates effects based on a visual representation of sound waves. You can adjust wavelength, amplitude, scale and even the type of wave (Sine, Triangle, or Square). The image shown here has been distorted using the Sine setting.



2 Here we've used the Triangle setting, resulting in an image that appears to be folded several times along its length. The other settings used on this image of 900x675 pixels were: Number of Generators: 1; Wavelength: Min 1, Max 999; Amplitude: Min 1, Max 999; Scale Horiz and Vert both 40%. Undefined Areas was set to Wrap Round. The angles can be altered by amending the Scale settings.



3 This shimmering abstract effect was also created using the Triangle setting. Number of Generators was set to 40, Wavelength and Amplitude Min and Max were set to 1 and 21 respectively, and both Scale settings were set to 50%. The filter was then run a few times; this shows how you can rapidly get interesting degradation effects with multiple applications of the filter.



4 The third of the Type options is Square, which doesn't tend to mash images to bits, even at extreme settings. Instead, it slices images into rectangular sections and rearranges them – an effect that's commonly used, but which can be a pain to create manually. The settings used were: Number of Generators: 2; Wavelength and Amplitude Min and Max: 1 and 999; Scale: Horiz 100 and Vert 1.



Making waves

The Wave filter is one that it's worth taking some time to experiment with; just tweaking a few settings can have a massive effect on the resulting image. Also, the tiny dialog box preview doesn't bear a great deal of resemblance to the final image, so trial and error is often your only option.



Different dimensions

Because of the way in which the Wave filter works, the effect is dependant on the dimensions of your image. Therefore, if you change the dimensions of the image you're working on – even by just altering its scale – the effect you get can be wildly different.

The ZigZag filter

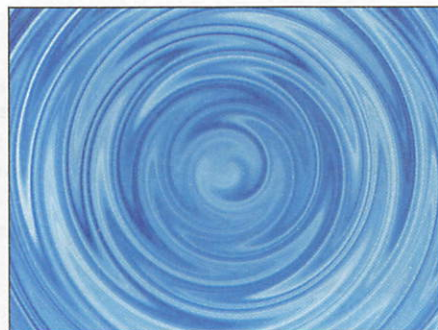
Create more liquid effects, such as pond ripples, with this highly configurable distortion filter



Add Spatter

You could also try adding texture to a ZigZag-filtered image using the Spatter filter. This is primarily a painting filter, but it has the effect of breaking up areas of an image. This can be handy for introducing some much-needed randomness to any image that you've applied the ZigZag filter to.

Rather than create zigzags along an axis, like a number of joined-up 'Z's, Photoshop's ZigZag filter (Filter > Distort > ZigZag) instead arranges zigzags in a radial pattern, which results in a kind of water-like ripple effect that emanates from the centre of your image, rather like what you'd see after dropping a pebble into a pond. Three different styles of ripple effect are available – Pond Ripples, Around Center and Out From Center – and the height and number of ripples can be varied using the options in the dialog box.



Create the effect of water draining down the plug-hole by running the Clouds filter and then applying the ZigZag filter

You can get some excellent effects by combining this filter with one of the water effects covered on page 90.



A calmer pond

For a subtler pond surface effect, try running the ZigZag filter over a linear gradient. Alternatively, for an interesting and moody effect, create an image with a radial gradient that's light in the centre and dark at the edges and apply the ZigZag filter to it.

THE ZIGZAG FILTER DIALOG BOX

- ☐ **AMOUNT** controls the level of spin, creating pronounced ridges at high values and subtle ones at lower values. The value range is -100% to 100%; negative values rotate the effect in the opposite direction to positive ones.
- ☐ **RIDGES** defines the number of zigzags that appear in the selected area.
- ☐ **THE AROUND CENTER** Style option rotates the effect around the image's centre, and creates four zigzag lines that travel from the centre of the image to its edge.
- ☐ **OUT FROM CENTER** creates a circular ripple. A positive Amount value creates an effect that appears to come towards the viewer; at a negative value, it appears to recede.
- ☐ **POND RIPPLES** combines the effect of the other two options. The ripples are pushed to the top-left when the Amount is positive, and pulled down to the bottom-right when the Amount is negative.

The Twirl filter

Use this filter to twist an image around its centre point and create whirlpool-like effects

The Twirl filter (Filter > Distort > Twirl) works by rotating an image from its centre, but leaving the edges intact; this creates a spiral effect that brings to mind viscous liquid being sucked down a plug-hole. One of the nice things about the Twirl filter is how seamlessly it applies itself to images. Some distortion filters need to be applied with great care, otherwise the edge between the filtered area and the original image is abrupt, and therefore very obvious. The Twirl filter isn't like that; it can be used



Here we've used the Twirl filter to distort an image, and create something reminiscent of a Salvador Dali painting

with circular and rectangular selections without you needing to worry about feathering the edges.



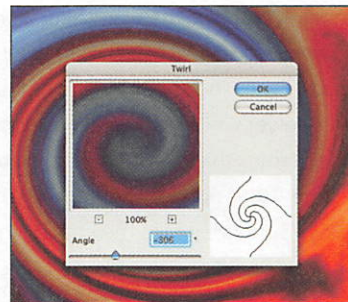
Better twirls

The Twirl filter generally seems to create smoother effects when you use a lower Angle setting. Therefore, if you require an Angle setting of, say, 500, run the filter five times using an Angle setting of 100.

THE TWIRL FILTER DIALOG BOX

Discover the ins and outs of working with this fun filter

The Twirl filter's dialog box is one of the easiest ones to get to grips with, as it offers just a single setting: Angle. The value range of this setting is from -999 to +999. At positive values, a clockwise spiral is created, and at negative values an anti-clockwise spiral is formed. As 360° is a full circle, the filter enables you to twirl an image just over two-and-a-half times. Along with a preview of the effect, you'll see a wireframe graphic that shows the extent of the distortion and its direction; this is handy if you're using the filter to make subtle changes to a complex image, when the preview window alone perhaps wouldn't be clear enough.



The Twirl filter's dialog box enables you to twist an image clockwise or anti-clockwise by up to 999 degrees

Pinch and Spherize

Create unusual distortions by stretching the centres and compressing the edges of images



Wrap around cylinders

There's one main difference between the Spherize filter's dialog box and that of the Pinch filter – the former contains a Mode pop-up menu. This contains three options: Normal, Horizontal Only and Vertical Only. The default option – Normal – is the one discussed on this page, and wraps the selection around a sphere. The other two options work best on rectangular images or selections, and wrap the image around a cylinder.

The Spherize filter creates the effect of an image being wrapped around a sphere. If applied to a whole image, the filter uses the image's dimensions to create an elliptical selection; this usually leaves an abrupt edge between the spherised area and the original image, which can be avoided if you create an elliptical selection with a feathered edge prior to running the filter.

The dialog box provides an Amount slider, which ranges from 100% to -100%. At 0 there's no distortion; at positive values the image is distorted



Create a TV screen-style effect by applying the Spherize filter to an image that has a border around it

out of the screen; when negative values are applied the distortion is into the screen, away from the viewer.

THE PINCH FILTER

Squeeze and stretch the centre of the canvas with this filter

In many respects the Pinch filter works in the same way as the Spherize filter. It too has an Amount slider, although in the case of the Pinch filter 100% distorts the image away from the viewer, while -100% distorts it towards the viewer. You might think that the 100% Pinch setting is therefore the same as the -100% Spherize setting, but the effects are different. While Spherize wraps the image around a sphere, Pinch distorts the image based on a bell-shaped cone, rather like a Gaussian model. This means the transition between original image and filtered area is rather less abrupt, although we still recommend working with a feathered-edged selection.

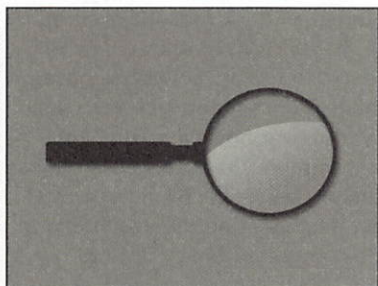


This image shows the effect of the Pinch filter run multiple times on a circular selection with a feathered edge

Through the looking glass

Create this popular effect with the help of the Spherize filter and a little further manipulation

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1 First we need to create our magnifying glass. Depending on whether you want something realistic, or more stylised, there are various methods you can use. We've used the Rounded Rectangle Tool for the handle, and created the glass surround using the Elliptical Marquee Tool and Select > Modify > Contract. The light effect is a partially deleted linear gradient that's stored on a separate layer.



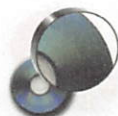
2 Open your background image. Duplicate the Background layer and press [Ctrl]+[T] ([Command]+[T]) to access the Free Transform Tool. In the options bar increase the dimensions of the selection by setting W and H to 130%. Drag your magnifying glass to the new document and use Free Transform to change its direction to suit. As the highlight is on a separate layer it can be fixed as appropriate.



3 Select the top Background layer. Hold [Alt]+[Shift] ([Option]+[Shift]) to drag a selection from the centre of the magnifying glass using the Elliptical Marquee Tool. Its edge needs to be within the rim of the glass. Press [Ctrl]+[Shift]+[I] ([Command]+[Shift]+[I]) to invert the selection, then [Backspace] to delete it. The original image should now be visible everywhere, apart from through the glass.



4 Deselect everything, and then create the same selection as in the previous step (if you don't do this, odd things tend to happen). With the content within the glass selected, go to Filter > Distort > Spherize and set Amount to 80% and Mode to Normal. This, in combination with the transformation carried out in step 2, creates an authentic distortion effect.



Magnifying glass

We're well aware that the instructions in step 1 are a little brief, to say the least. However, if you don't fancy battling with Photoshop's tools to create a magnifying glass of your very own, just use ours; it's on the cover CD, entitled *magnifying_glass.psd*.



Added realism

Our magnifying glass effect is slightly exaggerated and stylised. If you want something more in keeping with the real world, use a lower value when applying the Spherize filter. Setting different dimensions in step 2 can also affect the end result quite a lot, although you should keep some distortion in place, because some is apparent when you look through a real magnifying glass.

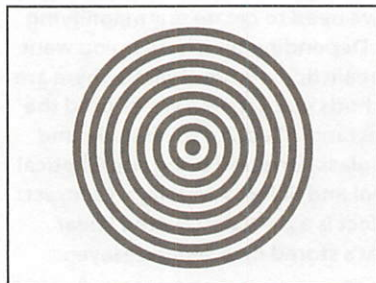
The Polar Coordinates filter

It can pull an image apart and wrap it around itself, but this filter has highly practical uses too



Rectangular to polar

The Polar Coordinates dialog box has just two options, the first of which is Rectangular to Polar. This setting distorts your image by rotating the bottom left-hand corner and bottom right-hand corner round to meet each other in the centre at the top of the image. The effect is rather like taking a flat map of the world and then looking at it from above if it was then wrapped around the top half of a sphere.

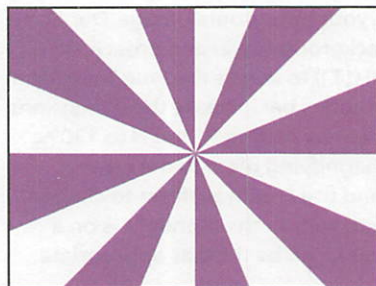


1 Although the filter is capable of warping images beyond all recognition, we're going to use it for largely practical purposes here. This image is of concentric circles, which can be tricky to create; however, using Polar Coordinates it's simple. Create a square canvas and use the Marquee Tool to fill in horizontal stripes. Select the Polar Coordinates filter and choose the Rectangular to Polar option.

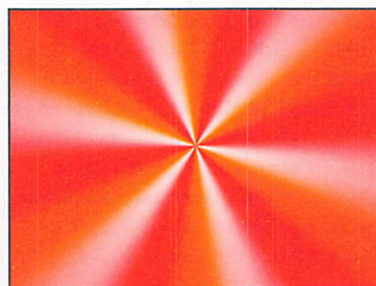


Polar to Rectangular

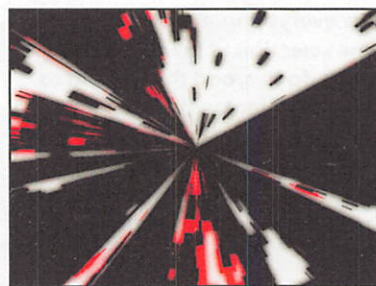
The other dialog box setting is Polar to Rectangular, which works in the opposite way to Rectangular to Polar. In other words, the top centre point has one side rotated to the bottom left-hand corner and the other to the bottom right-hand corner.



2 This image shows a basic starburst effect that's commonly used in graphic design and advertising. This was created by using the Marquee Tool to fill vertical stripes alternately in purple and white. The Polar Coordinates filter was then applied, using the Polar to Rectangular option. The effect is a little dazzling, though, so a method of achieving a subtler result is shown in the next step.



3 The initial pattern was created in the same way, but in three colours. This time a Gaussian Blur was applied and a linear foreground-to-transparent gradient overlaid at 50 per cent opacity. Because the edges of the image are flat and not blurred, the Marquee Tool was used to select a horizontal section between two of the blurred orange stripes before the Polar Coordinates filter was run.

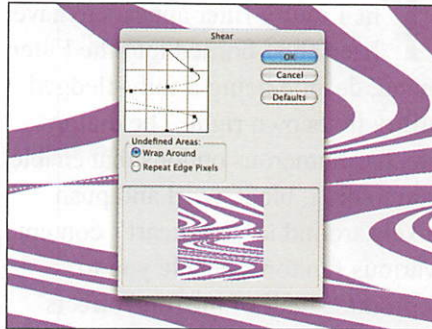


4 A Mezzotint filter was applied to a photo, then a short horizontal selection was stretched to the image's full height. The image was converted to Indexed Color, simplified to four non-dithered colours (with black and white forced), and converted back to RGB. The Polar Coordinates filter was run, the layer was duplicated, a Gaussian Blur applied, and the duplicate's blending mode set to Linear Burn.

The Shear filter

Distort any image along a vertical curve, clicking and dragging to tweak the effect

The Shear filter (Filter > Distort > Shear) has a simple dialog box. At the top-left corner is a small grid with a slightly curved line inside it; to the bottom is a small preview of your image. The points on the curve within the grid can be dragged, increasing or decreasing the level of distortion of the equivalent portion of the image. By clicking on other parts of the line more points can be added, which can also be dragged around. Usefully, points can be removed by dragging them outside the grid area. The minimum number



Here's one of our starburst effects from the previous page, distorted along the curve depicted in the dialog box

of points you can have is two, which enables you to slant the image, as per Photoshop's Skew command.



Horizontal curves

You might think the Shear filter is a bit limited, because it only provides a vertical curve along which you can distort your image (there's no way of dragging the entry points up the sides of the grid). If you want to create horizontal curves, just rotate your image by 90 degrees, apply the filter, then rotate it back again.



Start again

This is one of those filter dialog boxes that's very simple to use, but this also means it's easy to get into a tangle, and make a real mess of the original image. If you get into a bit of a state, with too many points on the curve, just click the Defaults button to reset the curve to its most basic form.

UNDEFINED AREAS EXPLAINED

- **THE SHEAR FILTER** dialog box contains options for Undefined Areas. The two available choices are Wrap Around and Repeat Edge Pixels. Undefined areas are the gaps that appear between the edge of the canvas and the sides of an image where the image is curved inwards.
- **WRAP AROUND TAKES** the portions of the image that have been forced off the canvas to one side and places them on the opposite side of the image. In other words, if your curve forces part of the image off to the right-hand side, it will reappear at the left of the image if this option is selected.
- **REPEAT EDGE PIXELS** takes the pixels from the edge that's being distorted and repeats them up to the edge of the canvas, which often results in thin, coloured horizontal lines.

The Liquify filter

Warp images beyond all recognition with this extremely powerful distortion utility



Inverting masks

When working with Quick Mask Mode elsewhere in this book you'll have noticed a number of occasions when it was necessary to rapidly invert the selection. This is also possible when you're working with the Liquify filter – simply click Invert All under Mask Options. All masked areas will become available for editing, and all unmasked pixels will become masked.

The Liquify filter appears to have been shoe-horned into the Filter menu, despite being a fully-fledged utility in its own right. The dialog box has numerous options that enable you to drag, bloat, twirl and push pixels around to your heart's content. Various fun tools enable you to reproduce 'hall of mirrors' effects and random distortions, while more practical options enable you to freeze areas of an image you want to protect from distortion (and also to unlock, or 'thaw', such areas later on). The filter is a veritable playground for



It appears that one of our model sheep needs to cut down on all that fast food and go back to eating grass

those with a penchant for mashing images to a pulp, but it also has practical uses, as we'll see.

THE LIQUIFY DIALOG BOX

There are three groups of tools. The first set includes various warping tools, the second deals with masks and the third set enables you to move and zoom the preview.

Reconstruct Options contains settings that enable you to revert an image to how it was before distortions were applied, or reapply distortions in a different way.

View Options determines how the mesh is shown (and what colour it is), the colour of the mask, and whether to use a backdrop to blend with the distorted image.



The rather handy Load Mesh and Save Mesh buttons enable you to store meshes for future use.

The Tool Options section enables you to edit the parameters of the current tool. Photoshop's standard shortcuts for changing the brush size work here too.

Mask Options provides a number of ways of locking and unlocking areas of an image to protect them from being distorted.

Distorting an image with Liquify

Rather than go wild with the Liquify filter we'll use it to make subtle changes to an image

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1 We're going to make some changes to this strange face made up of various plants and garden ornaments. The 'before' image is at the foot of the previous page, and the file is on the CD (099.jpg). Those eyes are a bit beady, so use the Bloat Tool (with Brush Size set to 100) to make them bigger. The best way to do this is slowly, using small taps, rather than holding down the mouse button.



2 The next job is to reduce the size of that huge nose. Select the Pucker Tool and set Brush Size to 300. Ensure that the entire brush is within the face, and click the mouse button a number of times until the nose is a more suitable size. Again, avoid holding the mouse button down; the Liquify preview can take a while to catch up, and distortions can rapidly go to extremes.



3 Select the Push Left Tool, and set Brush Size so the brush fits within the right-hand eye. Push Left works by moving pixels in a direction perpendicular to that in which you drag (for example, right, if you drag down) and this direction can be reversed by holding [Alt] ([Option]). By clicking and 'wiggling' the cursor, and regularly reversing the direction, we can change the eyeball size, as shown.



4 To see the fruits of your labour in grid-like form, click Show Mesh in the View Options section. This overlays a grid that enables you to more easily see exactly how the image has been distorted. By using the Mesh Size pop-up menu, the size of the grid squares can be changed, and, if you don't like the red lines, the Mesh Color pop-up menu provides six alternatives.



Liquify history

Although the Liquify filter doesn't have its own History palette, the relevant shortcut keys still work, so you can use [Ctrl]+[Alt]+[Z] and [Ctrl]+[Shift]+[Z] ([Command]+[Alt]+[Z] and [Command]+[Shift]+[Z] on a Mac) to undo and redo a number of steps. This means you can experiment with several effects, knowing that you can easily go back to a previous point that you were happy with.



Save your meshes

Those of you who carefully read the previous page will have noticed that Photoshop enables you to save Liquify meshes, so take advantage of this option. Unlike most Photoshop filters, Liquify doesn't keep hold of your previous settings, so once you close the dialog box everything's gone. However, if you save a mesh, you can always tweak the settings later.

Creating a planet

Use an array of filters and commands to create your very own heavenly body



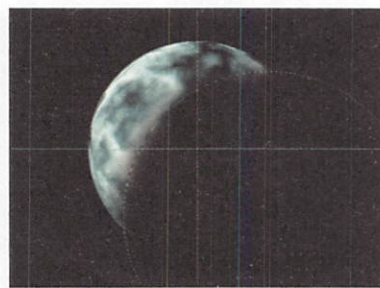
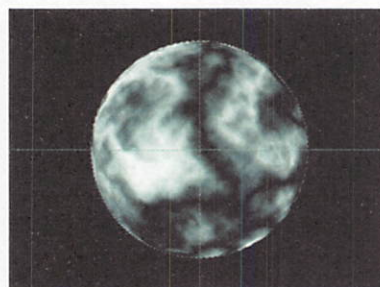
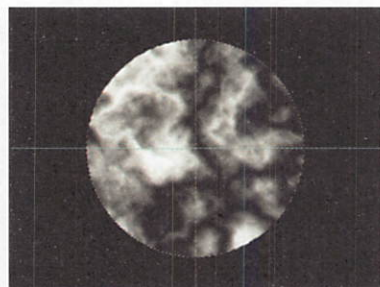
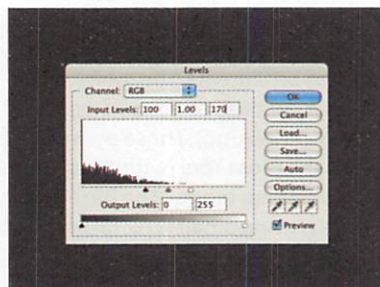
Perfecting clouds

In step 1 we say to run the Clouds and Difference Clouds filters to vary the brightness of the stars. Because these filters are random in their distribution of the haze effect, you may have to run the Difference Clouds filter several times before it produces an effect and distribution that you're happy with. You can't see the star field effect in the images on these pages as they're too small – it'll show up better on your screen.



Unique every time

Because of the nature of the Clouds and Difference Clouds filters, this effect creates a unique result each time; you always end up with a different star field and a planet that's the only one of its kind. Remember that the effects we use are destructive, however. As you won't ever be able to recreate the exact same planet, make a copy of the planet layer at the end of step 2 in case you want to use it again in the future.



1 Create a new document of 1,000x800 pixels and fill the background with black. Duplicate the layer and run the Add Noise filter; set Amount to 20%, Distribution to Gaussian and ensure Monochromatic is checked. Open the Levels dialog box and set Input Levels to 100, 1.00, 170 to thin the star effect. To vary the brightness of the stars add a layer mask and run the Clouds and Difference Clouds filters.

2 Create a new layer called 'planet' above the others. Using the Elliptical Marquee Tool, drag a circle of about 340 pixels in diameter from the image's centre (ensuring Anti-aliased is checked in the options bar). Run the Clouds filter once, and then the Difference Clouds filter a half dozen times. Go to Image > Adjustments > Equalize, select Equalize selected area only, and click OK.

3 To colour the planet, go to Image > Adjustments > Hue/Saturation, check Colorize, set Hue to 195 and Saturation to 25. To add a 3D effect go to Filter > Distort > Spherize and set Amount to 100%. Don't yet deselect anything. Create a new layer under 'planet' called 'glow' and then select it. Press [D] and then [Ctrl]+[Enter] ([Command]+[Enter]) to fill the selection on this layer with white.

4 Deselect everything and create a new circular selection around 500 pixels in diameter. Use the cursor keys to move it down and to the right. Go to Select > Feather, set 15 for Feather Radius and hit OK. Select the 'glow' layer and delete the selected area. Select the 'planet' layer and go to Image > Adjustments > Hue/Saturation. Set Lightness to -80. Go to Brightness/Contrast and set both values to -30.



5 Deselect everything on the canvas, then select the 'glow' layer in the Layers palette. Go to Filter > Blur > Gaussian Blur to create a subtle glow effect around the edge of the planet. Add a new layer behind 'planet' and call it 'lens flare'. Fill the layer with black and set the layer's blending mode to Linear Dodge.



6 We'll now add a lens flare to simulate a rising sun. Go to Filter > Render > Lens Flare, choose 50-300mm Zoom and set Brightness to 100%. Click OK and you'll see the lens flare appear behind your planet. Use the Move Tool to move it into the right position. Add a layer mask and use a radial foreground to transparent gradient to block the unwanted portions of the lens flare, as shown.



7 The edge of the planet is too pixelated, and this shows up against the lens flare. Select the 'planet' layer and use the Magic Wand to select the space around the planet. Press [Shift]+[Ctrl]+[I] ([Shift]+[Command]+[I]) to invert the selection. Go to Select > Modify > Contract and set 'Contract by' to 2 pixels. Go to Select > Feather and set Feather Radius to 1, then invert the selection again and delete it.



8 Add depth to the star field by creating more layers between the 'glow' layer and the original star field. Fill each layer with black, set its blending mode to Screen and add noise as in step 1. However, in the Levels dialog box, leave fewer stars by setting Input Levels to 165, 1.00, 170. Go to Filter > Blur to blur the few remaining stars and again open the Levels dialog box, setting Input Levels to 0, 1.00, 120.



Recolouring worlds

Remember that if you're not happy with the colour of your planet you can recolour it any time by going to Image > Adjustments > Hue/Saturation, checking Colorize, and setting Hue and Saturation to different values. Be wary of over-saturating the planet, however, otherwise it won't look realistic.



Blending stars

In the final step of the walkthrough we explain how to add depth to the star effect by adding further layers of treated noise. If the layers look too flat, or interfere too much with the image, do the same as in step 1: vary the brightness of the stars by adding a layer mask and running the Clouds and Difference Clouds filters.

Chapter 8

EMULATING NATURAL MEDIA WITH FILTERS

In this chapter...

- ☐ *Discover Photoshop's sketch filters*
- ☐ *Create painterly effects using native filters*
- ☐ *Simulate other natural media effects, including graphic design styles*
- ☐ *Combine filters to produce realistic watercolours and oil paintings*

If you're a dab-hand with Photoshop but a klutz with a real paintbrush, your computer can fulfil all your natural media needs, and help you to become an accomplished digital artist

While much illustration and design work is produced digitally these days, there's still a need for images that have the tactile qualities of natural media. However, many of the designers and artists who've learned their trade using a Mac or PC may never have been near a canvas and a set of oil paints, or battled with chalk and charcoal on an unforgiving board. Others may have tried their hands at natural media art, but become frustrated with how messy and time-consuming it can be, and by the fact that there's no Undo command when things go wrong. Photoshop can help you to create convincing real-world effects

without ever getting your hands dirty, providing you with the means for some instant experimentation along the way. The application's native filter set contains tools for producing a bewildering array of natural media effects, most of which can be found within the Artistic, Brush Strokes and Sketch categories of the Filter menu.

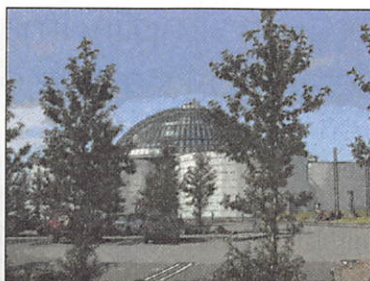
Artistic licence

The majority of these filters are not presets, so you can play with the various settings to achieve radically different effects. Some of the filters also contain built-in surface textures, and, even if they don't, you can

Paper cut-out effects



Page 108 Discover filters that emulate chalk, charcoal and pastel effects



Page 109 Find out how to turn a photo into ink and marker pen artwork



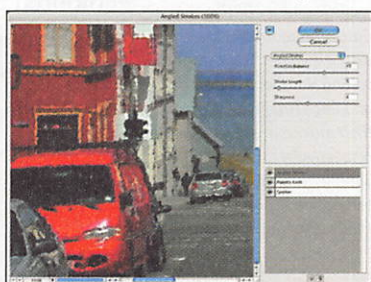
Page 111 Make your mark by finding out how to create a realistic stamp effect



Page 113 Experiment with filter settings to create wildly diverse results



Page 116 Produce a watercolour-style artwork without the Watercolor filter



Page 120 Create a vibrant and tactile oil painting in just a few minutes

always combine an artistic filter with one of the texture-orientated filters featured in Chapter 5.

Among the effects that you can apply to your images are various painterly styles, from Watercolor to Fresco, and from Palette Knife to the Eastern-style Sumi-e. Dry media is also well catered for, with a number of filters that simulate pastels, chalk and charcoal and coloured pencil effects. Inks are also covered, and there are a number of filters that enable you to convert your image into something a technical artist or graphic designer might produce. Finally, Photoshop has a few filters that create natural media

degradation effects, imitating how an image might fare after being run through a photocopier, or converted to a mezzotint.

Learn your craft

Unfortunately, some of Photoshop's native filters try to be a little too clever for their own good. Some make a good attempt at emulating real-world media, but others produce effects that look false, and obviously digitally produced. That's why in this section we'll not only be showing you the effects of the various filters, but explaining how you can combine them to create more convincing natural effects.

Paper cut-out effects



Set extremes

If you're after an interesting effect, rather than a truly realistic one, try setting the Cutout filter options to extreme values. For instance, setting Number of Levels and Edge Fidelity options to their maximums (8 and 3 respectively) and Edge Simplicity to 0 creates a semi-photorealistic effect made up of flat colours.

Two filters can simplify images so that they resemble artworks made of coloured paper

The Cutout filter (Filter > Artistic > Cutout) has similarities with the simplifying filters discussed in Chapter 6, rendering an image as if it were made up of pieces of coloured paper. The dialog box has three settings, enabling you to set the Number of Levels (effectively how many colours are used), Edge Simplicity (the higher the value, the less detail is retained) and Edge Fidelity (to control the complexity of the coloured shapes; higher values again make the image more detailed). While it's debatable



The Cutout filter only has three definable settings, but it's still able to produce a wide range of interesting effects

whether the filter produces a realistic effect, it's certainly able to produce results that are visually pleasing.

THE TORN EDGES FILTER

This more basic filter produces a simple, two-colour paper effect

The Torn Edges filter creates a two-colour image based on the Tools palette's current foreground and background colours. Although it's supposed to resemble an image made up of a layer of paper shapes with ragged edges, the effect is more like that made by a stamp. The three definable options are Image Balance, which determines the balance between the foreground and background colours; Smoothness, which dictates how feathered the edges are – select the maximum value for no feathering, and Contrast, which varies the contrast of the foreground colour, and creates the strongest effects at the mid-point setting (12 or 13).



The Torn Edges filter isn't great for paper effects, but it comes in handy as an alternative to the Stamp filter

Degradation effects

Simulate a naturally degraded image using the Photocopy, Mezzotint and Reticulation filters



1 The Photocopy filter (Filter > Sketch > Photocopy) simulates the effect of running an image through a photocopier. The image's colours are based on those in the Tools palette and the image is simplified, with detail removed to create a stylised effect. The Detail setting defines how much detail is lost; the lower this value, the more detailed the result. The Darkness setting controls the contrast.



2 If you want a highly saturated image with a scratch effect, look no further than the Mezzotint filter (Filter > Pixelate > Mezzotint). Its dialog box has just one option, which enables you to select from 10 effects, including dots, lines and strokes of various sizes and lengths. In the depicted image, the Grainy Dots setting has been used, resulting in a massively degraded image.



3 This image shows another Mezzotint filter option: Long Strokes. Again, the image is very degraded and over-saturated. However, the Mezzotint filter can be used with layer blending modes to create a more subtle effect. For instance, add some grain to an image by using the Fine Dots option on a duplicate layer, then set the blending mode to Overlay and Opacity to 40%.



4 Found in the Sketch category, the Reticulation filter can simulate the distortion of film emulsion. The Foreground Level and Background Level settings control the balance of each colour in the effect, while Density determines the level of grain in the image, with the most being at the mid-point; at extremes, the grain increases to the point of becoming a flat colour.



Photocopy effects

For a washed-out image that resembles a photocopier low on toner, set Detail to a high value such as 22 and Darkness to about 3. For the opposite effect set the Darkness value much higher – say to 43. For a stylised line drawing, set Detail to 2 and Darkness to 50.



Retro photos

You can combine two filters discussed on this page to create a retro-style photograph. Create two duplicate layers of the original image, set the foreground and background colours to Pantones 1795 C and 611 C respectively, and then run the Reticulation filter on the top layer, with these settings: Density: 0; Foreground Level: 25; Background Level: 25. Set the layer blending mode to Overlay and Opacity to 80%. On the middle layer, run the Mezzotint filter using the Fine Dots setting. Set the layer blending mode to Overlay and Opacity to 20%.

Filters for sketch effects

Simulate coloured pencils, a smudge stick and pastels with filters from the Artistic category



Better pastel textures

When the Rough Pastels filter is applied, the effect looks more authentic if a Light setting of Top Left is used. For an image resembling a super-detailed pastel composition, also set Stroke Length to 0, Stroke Detail to 3, Texture to Canvas, Scaling to 100% and Relief to 15.



Minimising the effects

Many of the artistic filters still have an effect on your image even when all their settings are reduced to their minimum values. In some cases, the effect can actually be superior to the filter being used in a more heavy-handed manner.

1 The Colored Pencil filter is one of many that uses a pattern of diagonal strokes known as crosshatching to recreate the look of natural media. There are three definable settings: Pencil Width, which at higher values reduces the amount of visible crosshatching; Stroke Pressure, which at higher values increases the amount of colour on the page and Paper Brightness, which we look at below.

2 The Colored Pencils filter takes its background colour from that set in the Tools palette. This colour can be amended by adjusting the Paper Brightness. At its maximum value, 50, the background colour will be the same as that chosen in the Tools palette; at 0, it will be black, and at other settings it will be somewhere in-between. White tends to work best with this filter.

3 Rough Pastels is one of the more faithful Artistic filters. The dialog box enables you to set the length and detail of the strokes, and the Texture area is practically a carbon copy of the Texturizer filter. This effect works best with fairly low stroke values. When Stroke Detail is too high, the image is over-saturated and almost looks embossed. When Stroke Length is too high, the effect looks faked.

4 The Smudge Stick filter smudges the darker areas of your image and brightens the lighter parts. Three settings can be defined: Stroke Length, which determines the length of the diagonal smudging; Highlight Area, which increases the amount of lighter areas in the image, and Intensity, which at higher values increases the saturation of the image's lighter areas.

The Crosshatch filter

This filter – which, not surprisingly, also employs crosshatching – produces a range of effects



1 The Crosshatch filter (Filter > Brush Strokes > Crosshatch) has three definable settings, all of which have a major effect on the filter. Stroke Length determines the length of the strokes, while Sharpness at higher settings creates the effect of a sharpen filter being run over the hatched areas; this causes huge changes when the third setting, Strength, is above its minimum value of 1.



2 By setting Stroke Length and Strength to their maximum values, and Sharpness to its mid-point setting of 10, the image is pretty much destroyed, leaving only the vaguest hints of the original amid intense crosshatching. Although hardly the most suitable effect for a final illustration, this can be a quick way of producing an interesting texture to be worked into a composition.



3 With Stroke Length set to 3, which is near its minimum value, Sharpness at its mid-point of 10 and Strength set to its maximum value, 3, the cross-hatching vanishes. In its place is an effect that makes the edges very prominent, and replaces the coloured areas with something that's halfway between the results of the Mezzotint and Colored Halftone filters.



4 Here Sharpness is reduced to 0, and Stroke Length increased to 15. This significantly reduces the level of detail in the image; it resembles the early stages of a painting, prior to detail being introduced. Bring some detail back as follows: place a duplicate of the original layer over the top, and set Opacity to 50% and the blending mode to Overlay. Then run the Find Edges filter.



More passes

The Strength setting has a range from 1 to 3, and higher values create a far more intense crosshatching effect. This is because the filter simulates the number of passes the hatching effect takes. Anything over 1 doesn't look particularly natural, and using the maximum value increases colour saturation, as shown in steps 2 and 3.



Add some texture

Because the Crosshatch filter uses the Filter Gallery for its dialog box, it's easy to add some additional texture to the image. Add another effect layer in the stack and select the Texturizer filter. With moderate settings for the Crosshatch filter (such as 3 for Stroke Length, 6 for Sharpness and 1 for Strength), and the Texturizer filter set to Canvas texture and Top Left light direction, a subtle painterly effect is created.

Charcoal and crayon effects

Create charcoal, chalk and crayon effects without having to get your hands dirty



A bleached photograph

The Conté Crayon filter can produce interesting effects when used in a manner other than that which its creators perhaps intended. If you turn off the background texture by setting Relief to 0, then set Background Level to 15 and Foreground Level to 8, the image resembles a slightly degraded, bleached, black and white photograph.

For anyone who's ever drawn with charcoal the prospect of doing so digitally, rather than dealing with messy black sticks, will be enough to make them rush for the Filter menu's Sketch category, in which the relevant filters are housed. The first of them, Charcoal & Chalk, uses Photoshop's familiar diagonal crosshatching to build a black and white image, while the charcoal and chalk effects can be balanced to suit. The Charcoal filter is a little more involved, enabling you to amend line thickness and detail, and also light balance. By varying



The Charcoal filter produces an image in which some areas are filled with a crosshatch pattern, while others are drawn

these settings you can create the scratchy effect of a piece of sharp charcoal, or a more smudged effect.

THE CONTÉ CRAYON FILTER

Simulate thickly applied crayon on a textured background

Like the other filters on this page, Conté Crayon is found in the Filter menu's Sketch category, and uses the default background and foreground colours. The filter only has two definable settings, for the level of the background and foreground colours. Other than that, the effect of the filter is largely controlled by the Texture settings, which work exactly like those of the Texturizer filter. Natural effects are created by setting Foreground Level and Background Level to moderate values of between 7 and 10, and then setting Texture to Canvas and Relief to a low, single-digit figure. Setting Light to Top Left produces the best results.

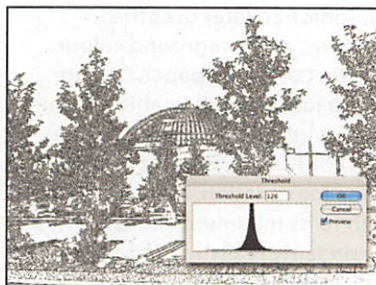


By applying the Conté Crayon filter more than once – here, it was run three times – the effect builds in intensity

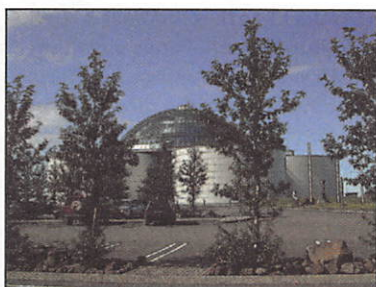
From a photo to a sketch

Use Photoshop filters to turn a photograph into a realistic ink and marker pen artwork

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1 For this walkthrough we're using 109.jpg from the cover CD, although you can use one of your own images if you wish. Open the image and duplicate the layer. Select the duplicated layer and go to **Filter > Other > High Pass**. Set Radius to 1 and click OK. Then go to **Image > Adjust > Threshold** and move the slider until you get a clean image, like the one shown.



2 When creating line art with the High Pass filter and Threshold command the results are often pixelated and harsh. Soften the lines by using a 1-pixel Gaussian Blur (**Filter > Blur > Gaussian Blur**); set the layer's blending mode to Multiply, so that the black marks (now softened by the blur) are overlaid on the colour original.



3 The underlying layer now needs to be simplified – particularly the colours. What we're going to do is create a marker pen effect by using two filters. Go to **Filter > Artistic > Poster Edges** and set Edge Thickness to 0 and Edge Intensity to 0, so that no extra black lines are created. Then set Posterization to 2 in order to simplify the colours.



4 Although the colours have been simplified the edges are still too jagged, so run a Median filter (**Filter > Noise > Median**) with a Radius value of 5. To knock the colours back slightly, and make the ink outlines more prominent, increase the layer's Lightness value. To do this, go to **Image > Adjustments > Hue/Saturation**, and set Lightness to 20.



Thicker edges

For even more prominent inked edges (although ones that lack the clarity of those in the walkthrough), duplicate the layer that the High Pass filter was applied to. Alternatively, run the Find Edges filter (**Filter > Stylize > Find Edges**) on a copy of the original layer and place it in between the two layers created in the walkthrough, and set its blending mode to Multiply.



Woodblock effect

The combination of High Pass filter and Threshold command is actually capable of creating a number of different visual effects. Try this walkthrough again, but set the High Pass filter's Radius value to 4, and leave the Threshold value at its default setting. The black areas will be more intense and plentiful, bringing to mind wood-block printing.

Ink and technical drawing effects

Create classic graphics effects, such as ink drawings, ink and wash, and posterised images



Intricate etching

Duplicate your image layer and run the Graphic Pen filter once on each of the layers, but with a different Stroke Direction setting in each case (such as Left Diagonal on one layer and Right Diagonal on the other). Change the top layer's blending mode to Difference to create an image that looks like it has been etched.



1 The Graphic Pen filter uses the background and foreground colours to create its effect of ink on paper. Despite the filter having just three definable options (one of which is Light/Dark Balance, which only serves to control the amount of 'ink'), it provides scope for variation. Here, we've set Stroke Length to its minimum value, creating an intricate and fairly realistic stippling effect.



2 When Stroke Length is increased, the dots turn into diagonal lines, resulting in a fairly realistic ink sketch effect. By altering the Stroke Direction setting the direction of these lines can be changed to Left Diagonal, Right Diagonal, Horizontal or Vertical, although only the diagonal settings look at all natural. For the best effects when working with lines, use a fairly high setting for Stroke Length.

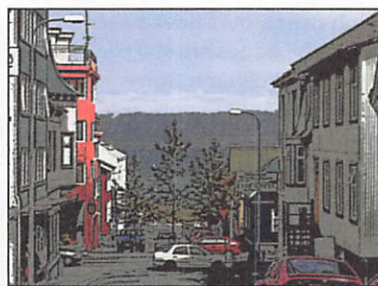


A better ink and wash

Like many of the other artistic filters, Ink Outlines comes into its own when some additional texture is added. When working in the Filter Gallery, add an effect layer and run the Texturizer filter with the following settings – Texture: Canvas; Scaling: 100%; Relief: 2; Light: Top Left. This subtle relief increases the level of realism in the image, and also hides the slightly pixelated nature of the thinner black outlines.



3 The Ink Outlines filter (Filter > Brush Strokes > Ink Outlines) enables you to create an effect that resembles a watercolour with the details inked in. The Stroke Length setting determines the level of detail of the ink strokes; lower settings provide the most detail. Dark Intensity and Light Intensity increase the amount of black in the image and lighten the image respectively.



4 The Poster Edges filter (Filter > Artistic > Poster Edges) produces a similar effect, but the black lines are less detailed, and the image itself has blockier colour. The Edge Thickness setting determines the thickness of the black lines, and Edge Intensity increases their number. The Posterization setting reduces the number of colours in the image; its effect is strongest when the value is set to 0.

The Stamp and Spatter filters

Create a rubber stamp effect with the Stamp filter, and enhance it with the Spatter filter

Found in the Sketch category of the Filter menu, the Stamp filter is another that creates flattened, two-colour images. Again, it takes its colours from the Tools palette's foreground and background colours. The Light/Dark Balance ranges from 0 to 50, and controls the balance between the foreground and background colours. Smoothness, as its name suggests, determines the hardness of the stamp effect. This ranges from 0 to 50, but very high settings often result in a featureless blob. The lowest setting, 1, produces



As long as an image has a sufficient amount of contrast you can usually get a high-quality effect from the Stamp filter

results that are slightly too pixelated, but a value of between 2 and 10 tends to work well.



Rougher edges

When creating a stamp effect make copies of your original layers, and experiment with different settings for both the Spatter and Stamp filters. With more applications of the Spatter filter you'll likely get rougher edges, resulting in a stamp that looks more aged.

COMBINING STAMP AND SPATTER

Create a more effective stamp effect by combining two filters

The Spatter filter creates an effect that's akin to splattered airbrushing. Spray Radius and Smoothness enable you to control the intensity of the effect, although the results are rarely great. However, the filter does have other uses. While the Stamp filter works fine with fairly complex images, the effect isn't as realistic on simpler creations, which in the real world usually have rough edges. Therefore, use the Spatter filter first to break up the image slightly. In the example on the right we ran Spatter twice, with Spray Radius set to 20 and Smoothness to 5. The Stamp filter was then applied, with Light/Dark Balance set to 25 and Smoothness to 2.



By breaking up a flat-coloured image before applying the Stamp filter you get a more realistic effect

Filters for watercolour effects

On this page we'll explore four filters that can be used to emulate a watercolour painting



Abstract effects

You can use the Water Paper filter to create an abstract, posterised effect. Set Fiber Length to 30, Contrast near to or at the maximum of 100 and Brightness to about 50; the resulting image will have large areas of black with hatched edges, with what look like subtle abstract watercolours behind.



1 Photoshop's Watercolor filter (Filter > Artistic > Watercolor) is the first port of call for many when trying to simulate this popular medium. It's a fairly realistic effect, enabling you to define Brush Detail and Shadow Intensity to fine-tune the level of detail and paint effect in the image. In addition, a high Texture setting enables you to recreate the masking effect some watercolourists use.

2 The Water Paper filter (Filter > Sketch > Water Paper) simulates painting on to wet, fibrous paper. Fiber Length controls the length of the fibres, which are more prominent at higher values, especially in the image's darker areas. Brightness and Contrast control the impact of the colours; at very low values the image is washed-out and grey, and at very high values it's over-saturated.



3 Sponge (Filter > Artistic > Sponge) is a filter that's a cross between a painting effect and a filter for simplifying your image. The Brush Size setting simplifies the image's detail as its value is increased, while Definition adds a patchy and unrealistic texture to the surface, and is best set to its minimum value. Smoothness further simplifies the image as its value is increased.



4 Another pseudo-airbrush effect, Sprayed Strokes (Filter > Brush Strokes > Sprayed Strokes) isn't terribly convincing. Stroke Length determines the length of the strokes, and Spray Radius the intensity of the effect. A decent result can be achieved by overlaying two layers on which different Stroke Direction settings have been used, and setting the top layer's blending mode to Overlay.



Further abstraction

Try running the Sponge filter with the settings shown in step 3 to simplify an image, and then make use of one of the edge filters discussed on page 88 to create an interesting abstract effect composed of curved lines and contours.

The Accented Edges filter

Produce effects ranging from a stylised watercolour to a textured, print-based image



1 The Accented Edges filter's dialog box offers three settings: Edge Width, Edge Brightness and Smoothness. These are fairly self-explanatory, although we should point out that the mid-point value for Edge Brightness (25) is the neutral point. At values under that, the edges gradually darken to black; at higher values, they brighten to white. Here, Edge Width is 1, Edge Brightness 5 and Smoothness 15.



2 The entire mood of the composition can be transformed by changing just one of the settings. Whereas the above settings created a stylised painterly effect, upping the Edge Brightness setting to 50 makes the image appear to glow. Although this effect is perhaps a little too 'other-worldly', more moderate values above 25 can produce the kind of glow seen in oil paintings.



3 This idea can be taken to extremes by using the Filter Gallery to overlay two instances of the Accented Edges filter. In the bottom effect layer we set Edge Width to 14, Edge Brightness to 25 and Smoothness to 8; in the top layer, we set Edge Width to 1, Edge Brightness to 50 and Smoothness to 8, creating a tactile painterly image, but one with glowing edges that almost look as if they're alive.



4 To create an effect akin to ink painting we've used two instances of Accented Edges and one of Texturizer (the top layer). The bottom Accented Edges layer is set to Edge Width: 1; Edge Brightness: 50; Smoothness: 7. The Accented Edges layer above is set to Edge Width: 2; Edge Brightness: 5; Smoothness: 5. The Texturizer layer uses Sandstone, a Relief value of 10 and the Top Left Light setting.



Maximum and Minimum

If you've read page 86 you'll know about the Maximum and Minimum filters, which recreate an image as if it was composed of coloured squares. A similar effect can be created with the Accented Edges filter. Set Edge Width to its maximum value and Smoothness to its minimum. Set Edge Brightness to 15 for dark squares, and 35 for light ones.



Know your limits

Although some of our examples on this page make use of extreme settings, if you're going for any kind of realistic effect with this filter learn to use moderate values. As soon as any of the settings go above their mid-point values the result is a highly stylised image.

The Underpainting filter

This filter enables you to create painterly effects by painting over an image twice



Keep it down

Although the Relief slider ranges from 0 to 50, values at the higher end of the scale result in unrealistic, pixelated effects. For the best results stick with a Relief value in single digits.

Watercolours can be very nice to look at, but they lack the punch and tactile qualities of thicker mediums. The Underpainting filter (Filter > Artistic > Underpainting) creates a fairly realistic watercolour, but its real forte is creating textured and viscous painterly effects. It works by painting some of the image twice; the details are painted in first, and then flat areas are painted over a second time, resulting in the canvas texture being partially hidden. The overall effect is highly organic, and works brilliantly with the Canvas



Unlike the various watercolour-effect filters, Underpainting produces an image that looks like it was created with much thicker paint

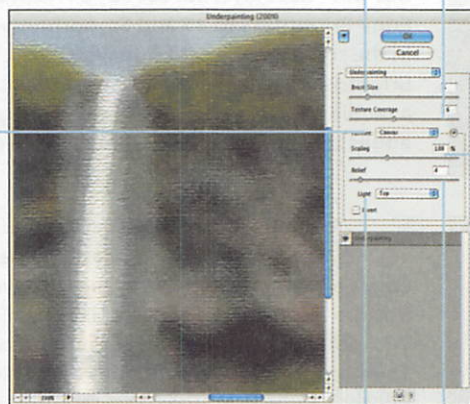
option from the Texture menu. The filter's settings provide scope for plenty of variation.

THE UNDERPAINTING DIALOG BOX

The Brush Size setting determines the level of detail in the effect; at larger values the level of detail is greatly reduced.

The Texture pop-up menu provides you with access to four built-in textures, and you can use the menu option to the right to load in your own.

The Light pop-up menu provides you with eight options for the direction of the light source. Top Left tends to produce the most realistic effects.



Texture Coverage enables you to define how much of the underlying texture is revealed; at higher settings, more texture is shown, at the expense of detail.

The Scaling slider enables you to adjust the size of the texture from half-size (50%) to double (200%), although many textures become blurred at the maximum value.

The Relief option determines the height of the texture; contrast is gradually increased as the value is boosted.

Exploring Underpainting effects

Experiment with the filter's dialog box settings to create some very different effects



1 In this example we've used moderate settings to create a fairly standard underpainting effect. Brush Size was set to 10, as was the Texture Coverage setting. We chose Canvas from the Texture pop-up menu, and Relief was set to 10. As we generally recommend, Light was set to Top Left. The result is a natural, realistic painterly effect.



2 To create this image all the Texture settings were left alone, but we changed both Brush Size and Texture Coverage; both values were increased from 10 to 30, resulting in a marked loss of detail in the final image, but a slight increase in the amount of visible texture. At settings any higher than this the image is effectively abstract, and devoid of recognisable details.



3 Here we've abandoned any pretence of realism, to demonstrate how the filter can be used to create textured abstract effects. We set Brush Size to 40, Texture Coverage to 0, Texture to Sandstone, Scaling to 200% and Relief to 10. The effect of flat colour surrounded by textured edges was enhanced by overlaying several effect layers with the same settings using the Filter Gallery.



4 Our final example returns to the realm of the painterly with a much more vibrant example than before, which is actually more realistic too. It results from creating a duplicate layer and setting the blending mode to overlay, which intensifies the colours. The settings in this case were Brush Size: 0; Texture Coverage: 20; Texture: Canvas; Scaling: 100%; Relief: 4; Light: Top Left.



Retain some detail

Unless you're trying to create an extreme, abstract effect – or impersonate someone who's not very good at painting – ensure that you retain a reasonable level of detail in your image when amending the dialog box settings. Brush Size in particular is best left at a relatively low value.



Extra texture

Even though the Underpainting dialog box enables you to add texture to an image's surface when you're adding the painterly effect, it's sometimes beneficial to add further texture. You can do this by running the Texturizer filter after applying the Underpainting effect. This usually works best when the Texture settings are the same as those used in the Underpainting dialog box. The Fade command can be used to tone down this extra texture as required.

A convincing watercolour

We can use several different filters to create a variety of realistic watercolour effects



Custom textures

Although we plumped for one of Photoshop's built-in textures in this walkthrough, you can always use one of your own. In the Texturizer dialog box, click the arrowhead next to the Texture menu to select Load Texture. Any PSD file can be used as a texture, so try using a scan of a real piece of watercolour paper.



Avoiding the obvious

One thing you might notice in this walkthrough is that we don't use many of Photoshop's built-in watercolour-oriented filters. This is because the effects they create can be a little too obvious – and a little too 'Photoshop' for that matter. Although preset artistic filters can be good for quick experiments, you're often better off combining the simpler filters in your own unique way.



1 For this walkthrough we're using 116.jpg from the cover CD, but feel free to use your own image. First things first: make a copy of the layer and keep it safe – we'll be needing it later. Select the top layer, and go to Filter > Artistic > Dry Brush. Set Brush Size to 2, Brush Detail to 8 and Texture to 1, and click OK. The effect is a little strong, so go to Edit > Fade, and fade it by 50%.

2 The image already resembles a watercolour, but we need to simplify the details and add texture. Go to Filter > Noise > Median and set Radius to 5. Next, go to Filter > Texture > Texturizer. Set Texture to Sandstone, Scaling to 200%, Relief to 5 and Light to Top. The scaled-up sandstone texture provides an acceptable simulation of watercolour paper, and the Median filter has blurred our image.

3 Although watercolours don't have the same tactile surface quality as oil paints, they can still show brush marks when applied liberally. We can simulate this effect by using the Angled Strokes filter (Filter > Brush Strokes > Angled Strokes). Set Direction Balance to 50, Stroke Length to 3 and Sharpness to 1. The effect is subtle, but it does improve the image.

4 Many watercolour paintings tend to use paler colours than those we've created. If you want to experiment with different opacities, add a new layer under the one with the painting on and fill it with white. Then set the opacity of the painting layer to suit. Here we've set it to 80%, resulting in a softer and more faithful effect.

Other filters for paint effects



5 On this page we'll simulate the effect of adding ink details to the image, as many watercolourists do. In this example we used a copy of the original layer, and applied the High Pass filter with a Radius of 5. We then applied a Threshold adjustment (Image > Adjustments > Threshold) with a value of 121, and a Gaussian Blur with a Radius value of 1. Finally, we set the layer blending mode to Multiply.



6 It's possible to create a subtler effect, like that of drawing over a watercolour with a Rotring pen. Create two duplicates of the original layer, desaturate both and set the layer blending mode of the top layer to Color Dodge. With no other layers visible you should just see white. Select the top layer, go to Filter > Blur > Gaussian Blur and set Radius to 20 to bring back the image.



7 Use the Layers palette to link the two layers together and then merge them. Set the layer blending mode of this newly combined layer to Multiply. This should result in fine black lines appearing around some of the image's details, resembling those you'd create if you used a very thin-nibbed ink pen to carefully draw around the details of an actual watercolour painting.



8 In this image we've combined the two effects outlined above; however, the Gaussian Blur from step 2 has a Radius value of 50. In the Layers palette, the image to which the High Pass filter was applied is on top, and underneath is the one created by combining two layers. The colour layer is beneath that, followed, finally, by the plain white layer. Both line layer blending modes are set to Multiply.

**Deeper shadows**

If in the final step of the walkthrough you still don't think the dark areas of the image are intense enough, set the layer blending mode of the second lines layer (the one created by combining two layers) to Color Burn.

**Change opacities**

During the walkthrough we left the opacity of the ink line layers at 100%.

However, you can experiment with these settings to get different effects. For instance, after completing step 8, change the opacity of both of these layers to 30%. The result is a softer image with a more illustrative feel.

Other filters for paint effects

On these pages we'll run through eight more filters that enable you to create painting effects



Image simplification

The Dry Brush filter can be used, as an alternative to those filters discussed in Chapter 6, to smoothe and simplify an image. Set Brush Size to 0, Texture to 1 and Brush Detail to 10. This combination of settings produces the most detail this filter can muster. The resulting image still retains plenty of detail, colour and contrast, but is nonetheless simplified slightly.



1 The Dry Brush filter (Filter > Artistic > Dry Brush) adds more of an edge than the watercolour filters, resulting in a stronger image. Brush Size defines the level of detail, and Brush Detail controls the effect's definition. When used with a high Texture setting edges become harder, and contrast is increased. Here we've set Brush Size to 5, Brush Detail to 8 and Texture to 2.



2 Fresco (Filter > Artistic > Fresco) works similarly to Dry Brush, but its effect tends to be less detailed, and often fills darker areas with black. Brush Size determines the size of the paint dabs, and Brush Detail paints in details that may have been lost if a large Brush Size was used. Texture picks out details and paints them in with black lines. Here Brush Size and Brush Detail are set to 10, and Texture to 3.



3 The Paint Daubs filter (Filter > Artistic > Paint Daubs) simulates the effect of dabbing paint on to a canvas. A pop-up menu provides a number of brush types, and the effect can be fine-tuned by amending Brush Size and Sharpness, which at higher settings enables you to more easily distinguish each individual dab of colour. The Simple brush type option provides the most natural effect.



A sharper image

The Paint Daubs filter may be capable of extreme effects via its range of brush types, but one of its most useful applications makes use of more restrained settings. On a typical digital photo set Brush Size to 1, Brush Type to Simple and Sharpness to a low setting, such as 5. Detail within the image will be brought to the surface, making this filter a useful alternative to the sharpen filters.

4 Angled Strokes (Filter > Brush Strokes > Angled Strokes) creates a painterly effect in a similar manner to Crosshatch. The Direction Balance setting determines the direction of the strokes: at 0, they go from top-left to bottom-right; at 100, they go from bottom-left to top-right; at values in between, the directions are mixed. Stroke Length and Sharpness can also be defined.



5 For a chunky painting effect use the Palette Knife filter, which can be fine-tuned by setting Stroke Size, Stroke Detail and Softness. With Stroke Detail set to 1 a large Stroke Size setting makes the effect resemble Crystallize. However, when Stroke Detail is set to 3, the effect becomes painterly. Softness works best at low values; by setting it to 1 or 2, the paint is blended.



6 Although it's named after the artistic style, the Pointillize filter (Filter > Pixelate > Pointillize) doesn't exactly enable you to reproduce classic paintings of old. The filter adds a lot of coloured dots to your image, and almost completely fails to capture the quality and mood of an actual pointillist work. However, for a chunky, coloured noise effect, this filter may be of use.



7 One of the more stylised artistic effects, Dark Strokes (Filter > Brush Strokes > Dark Strokes) paints over an image with dark and light angled strokes, which blend with the original colours in the mid-tones. The effect is like a painted photo with reduced colours, and can be highly effective. However, the filter isn't very configurable; you can only set Balance, Black Intensity and White Intensity.



8 The Sumi-e filter (Filter > Brush Strokes > Sumi-e) is designed to mimic the Japanese ink painting technique. Three settings are available: Stroke Width, which gradually increases the width of the black strokes used to highlight detail; Stroke Pressure, which increases the intensity of the brush strokes, and Contrast, which increases the level of contrast within the image.



Bubbly shapes

We perhaps sold the Pointillize filter a little short elsewhere on this page. Although not much use for replicating the classic art effect, it can be used to create vibrant abstract imagery. At a value of 10 or more Cell Size pretty much makes any image unrecognisable, and at higher values the image is broken down into fewer and fewer groups of clumped irregular shapes.



A poster effect

You can use the Dark Strokes filter to create a posterised effect that resembles an inked drawing with a subtle two-toned watercolour background. To do this, set both Black Intensity and White Intensity to 10 (their maximum setting), and Balance to its mid-point value, 5.

From photo to oil painting

You can turn any digital image into a rich, textured oil painting in just a few minutes



Blur colours

If you're working from a digital photograph be sure to reduce the JPEG artifacts, as shown on page 22. If you don't do this, the various filters used in this walkthrough may make the artifacts more prominent, resulting in unwanted areas of texture and colour.



Zoom in

Unless you're working on a very small image, you won't be able to see all of it in the Filter Gallery preview area (unless you have a huge monitor). Although it's worth zooming out now and again to see how the entire image is faring, generally work at 100%, so that you can see how the various filters are affecting your image at actual size.



1 None of Photoshop's native filters can create a vibrant, tactile oil painting effect – at least not on their own. However, with a little work, and the help of the Filter Gallery, an authentic effect can be produced. First, go to Image > Adjustments > Hue/Saturation, and set Saturation to 50 in order to boost the colours in your image (otherwise the effect will look a little flat, and not at all luminous).



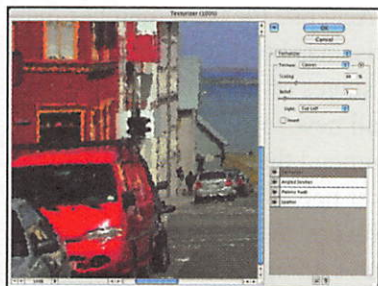
2 We next need to start adding a painterly texture to the image. Oil paintings generally have a fairly coarse and uneven feel, so we need to break up the image's lines. An ideal filter for this task is Spatter (Filter > Brush Strokes > Spatter), a filter that's applied through the Filter Gallery. Set both Spray Radius and Smoothness to 6, as shown.



3 Next, we need to add texture that looks like thickly applied paint. There are several filters you can use for this, and Palette Knife is a good one. In the Filter Gallery add another effect layer, and choose Palette Knife from the pop-up filter menu. Set Stroke Size to 4, Stroke Detail to 3 and Softness to 3. These settings ensure that the image retains detail, and that the strokes are slightly blended.



4 Oil paint is applied thickly, and often in a directional line. Although the variation of lines in a real painting can't be simulated, some linework can be introduced by using the Angled Strokes filter. Add another effect layer and choose Angled Strokes from the pop-up menu. Set Direction Balance to 60, Stroke Length to 5 and Sharpness to 4.



5 We now need to enhance the realism of this image by adding a canvas texture. This is achieved by using the Texturizer filter. Add another effect layer and select Texturizer from the pop-up menu. Set Texture to Canvas, Scaling to 80%, Relief to 3 and Light to Top Left for a realistic effect that doesn't distract from the paintwork. Click OK to apply the Filter Gallery combination to your image.



6 The effect is good, but it lacks the depth of a real oil painting. Unless you want to simulate a very flat piece of work, the image needs to be taken into the third dimension. Duplicate the painting layer and desaturate the new layer by going to Image > Adjustments > Desaturate, or by pressing [Shift]+[Ctrl]+[U] ([Shift]+[Command]+[U] on a Mac).



7 Various filters can add some depth to the image, but the best one is Emboss. Go to Filter > Stylize > Emboss, and set Height to its minimum value of 1 and Amount to its maximum value of 500%. Set Angle to whichever direction you want the light to come from (135 or 45 are good choices). Click OK, set the layer blending mode to Overlay and reduce the Opacity to 50%.



8 Here we've zoomed in on the finished image. You can see how the canvas texture and other filters have combined to create a very authentic effect; the details look suitably tactile and painterly, and the colours appear to glow. Although the settings we've used create an effect that's faithful to the medium, try experimenting with a few values to see what changes it makes to the result.



Get the balance right

Although oil painting can be all about vibrant, textured paint, don't get too carried away. Over-saturate your image at the start and the final colours will look very poor. And don't overdo the canvas relief or Emboss filter value, otherwise the image's 3D elements will pick up unwanted colours akin to those seen if you sharpen an image too much.



Different blending modes

You can get varied effects by experimenting with the layer blending mode of the top layer. The image's canvas texture can be changed by altering the blending mode from Overlay to Soft Light; over-saturated colours can be toned down by using Darken or Multiply, and colours can be boosted by using Color Burn.

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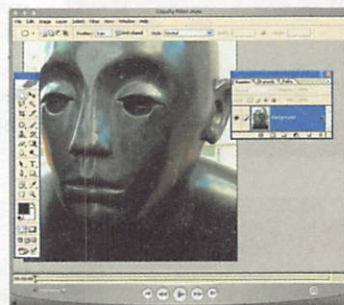
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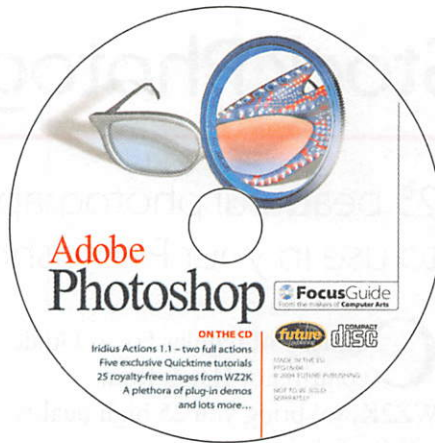
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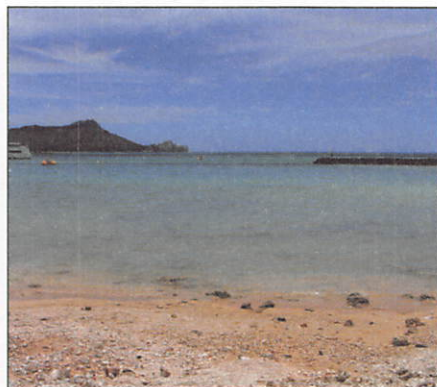


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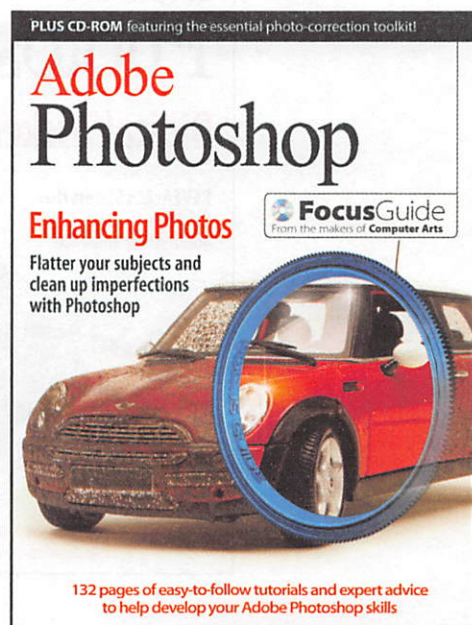
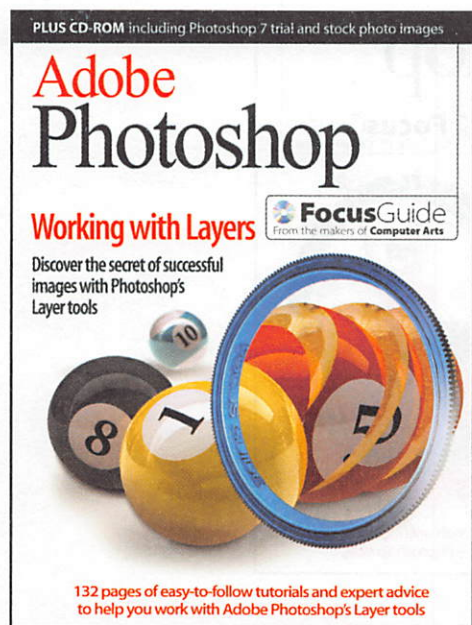
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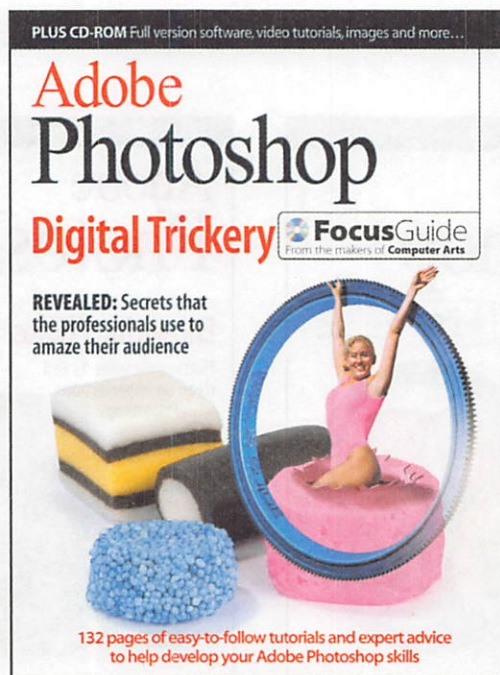
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Glossary

We always try to cut out the jargon, but it helps to add a few words of Photoshop-speak to your vocabulary...

Anti-aliasing

Moving pixels around can cause undesirable jagged edges to appear, where edited pixels have not blended smoothly together. Anti-aliasing refers to the process of smoothing out these jagged edges for a more natural look.

Blending modes

Blending modes are used to determine how the pixels in a layer are blended with underlying pixels on other layers. By applying specific blending modes to individual layers, you can create a wide variety of effects.

Brushes

Brushes enable you to paint on Photoshop images with colour, other bits of images and predefined patterns. They mimic real brushes in that you can alter their size, hardness and texture in order to achieve the effect you want.

Calibration

The process of adjusting a device to bring its behaviour into line with a known specification, helping to reproduce colours accurately. For example, colour monitors are calibrated to a specific colour temperature, gamma, and black-and-white luminance.

Colour channels

There are three or more colour channels in all full-colour images, depending on which colour mode you're using. For example, RGB mode contains red, green and blue channels, while CMYK mode contains cyan, magenta, yellow and black channels. Photoshop enables you to alter each channel independently.

Filters

A filter is a preset tool within Photoshop, which applies an effect to an image (or a selection within the image). Some filters apply their effect in one click, while others offer more complex settings. Filter categories include Sharpen, Blur, Artistic and Stylize. Each of these offer further options via fly-out menus. For a complete list, click in the Filter menu.

Gamut

The range of colour that a device (such as a printer) can produce, or the range of colour that a colour model can represent. If a colour is said to be 'out of gamut', it will not be reproduced accurately by the printing process or other intended destination.

.GIF (or .gif)

A type of image file format best suited to producing simple images for the web. Examples include logos, banners, buttons and anything made up of only a few flat colours.

Greyscale

An image is greyscale if it contains no colour information. Using Photoshop, you can transform a colour image into black-and-white, with many gradations of grey, in a single channel. This is known as a greyscale image.

.JPG (or .jpeg)

A type of image file format that gives a desirable combination of small file size and good-quality photo reproduction. It's commonly used in digital cameras to store the images that you take. The small file sizes also make it ideal for the web.

Layers

Layers containing effects or elements of images can be stacked on top of the original image layer (the background) in order to change the appearance of the image. Layers do not directly affect the layers beneath them, just as a blurry piece of glass placed over a photograph does not actually affect the photograph; in both cases, it's the appearance that has been changed, with the original image left unaltered.

Marquee

The flashing dotted outline that surrounds a selection. You'll also see it referred to in some places as 'marching ants'.

Rasterize

When you 'rasterize' a graphical element, you convert it from a vector to a pixel-based image. It will no longer be scalable like a vector, but can still be edited, like other images in Photoshop.

Resolution

A measure of how many pixels make up an image. A resolution of 300dpi (dots per inch) is recognised as the minimum if you're intending to print your images. 72dpi is sufficient for images intended for the web.

Selection

Any part of an image which you select with Photoshop's tools, usually indicated by a marquee around it. Making selections enables you to work on parts of an image, or remove them, without affecting the rest of the image.

Thumbnail

A small, 'thumbnail-sized' version of an image. You'll find

them in folders of images and in Photoshop's File Browser. Because they're smaller than a full-size image they're fast to load, and you can browse through them more quickly, which makes finding the file you're after much easier.

Pixel

An abbreviation for 'picture element', it's essentially a tiny dot of colour on screen. Most images are made up of millions of pixels, which combine to make an image look seamless. Zoom-in very close to an image, however, or enlarge it to a high degree, and you can clearly see these individual pixels.

PSD

Photoshop's own file format, which preserves elements such as layers and channels. If you're editing an image file, it's sensible to save it as a PSD, in order for the changes you've made to remain editable when you next open it.

Spot colour

A method of specifying and printing colours in which each colour is printed with its own separate ink. In contrast, process colour printing uses four inks (cyan, magenta, yellow and black) to produce all other colours.

Tool options bar

When a tool is selected, the corresponding tool options bar automatically appears along the top of the Photoshop window, giving you access to various options relating specifically to that tool. These often include effects such as Anti-aliasing and Feathering.



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